Bundle of documents for Oral hearings commencing from 13 May 2025 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Bundle 46 – Volume 1
Correspondence on Potentially Deficient Features

Table of Contents

From: Powrie, Ian
To: Powrie, Ian
Subject: FW: Forthcoming updated guidance on Pseudomonas
Date: 04 June 2014 18:14:31
Attachments: SHTM 04-01 Part A version 2.1.pdf
SHTM 04-01 Part B Version 2.1. Part B.pdf

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Stewart Ian (NATIONAL SERVICES SCOTLAND) [redacted]
Sent: 16 April 2014 10:36
To: Gerry.Cox[redacted] McInally Iain (NHS AYRSHIRE & ARRAN); Mather Ged (NHS BORDERS); Bennett David (NHS TAYSIDE); Bruce David (NHS TAYSIDE); Bryson David (NHS DUMFRIES & GALLOWAY); Conway Mark (NHS TAYSIDE); Johnstone Alistair (NHS DUMFRIES & GALLOWAY); MacDonald Robert (NHS HIGHLAND); Wilson Alan (NHS FIFE); O'Brien Geraldine (NATIONAL SERVICES SCOTLAND); Davidson Graham (NHS GRAMPIAN)
Cc: Powrie, Ian; Bisset Lawson (NHS SHETLAND); Gallacher, Alan; McLaughlan Edward (NATIONAL SERVICES SCOTLAND)
Subject: Forthcoming updated guidance on Pseudomonas

Good morning all,

Colleagues in NHS Northern Ireland are in the concluding stages of producing updated guidance on Pseudomonas in Neonates, ICUs etc which is being reviewed by HPS to update the CEL issued last May.

I have trawled through the draft text for the NI guidance which HPS kindly circulated to me and have assessed the impact on SHTM 04-01 Parts A&B. Some of the proposed guidance is more explicit or better expressed than previously and I have made changes to reflect this. Additional information has also been incorporated. At the beginning of each Part I have set out the principal changes but, to make it as easy as possible to track down the changes, these are highlighted in red within the draft versions.

The attached (Versions 2.1) will remain as drafts until the new HPS guidance is published but I have reasonable confidence that nothing will fundamentally change as it affects design issues or operation by estates personnel. In view of the likely publication of the Northern Ireland guidance being June/July, I thought that there would be merit in letting the Water Group have the opportunity now to make any comments before the summer holiday period.

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk

From: Gallacher, Alan
To: Kane, Mary Anne
Cc: Hunter, William
Subject: Formula Capital Project Forms
Date: 01 June 2014 14:52:15
Attachments: Project Request Template RAHBiomassShortfall.doc
New Project Request Template IRHLevelDPlantroom.doc
image001.jpg

Mary-Anne,

As requested form for RAH Biomass Shortfall (£500k max) completed and attached. I have also completed one for the IRH Level D Plantroom Upgrade where a 'high' risk of failure is also present due to age and condition of plant. This has already failed a number of times this year where the staff have had to implement contingency plans for patient warmth and is on the EAMs as a 'high risk'.

Do you wish me to do similar for the energy schemes or would one form listing the schemes with savings etc suffice.

Billy, before I complete others for Clyde, given the shortage of capital perhaps we can meet early this week and agree the priority of projects for Clyde and then I can proceed to complete these forms. No need at this point to complete forms for projects which will not get funded.

Mar

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

[redacted]

NHS Greater Glasgow and Clyde

CAPITAL PLANNING

Capital Planning
NEW PROJECT REQUEST

For

IRH Level D Plantroom Upgrade

Acute Directorship

1/6/2104

Attachments:

List attachments to documents if any i.e. Project Organogram, Cost breakdown, Background and Options Paper

New Project Request Revisions Tracker:

Revision No	*V1*
Revision Date	
Revised By:	
Summary of changes:	
Enter description of changes	

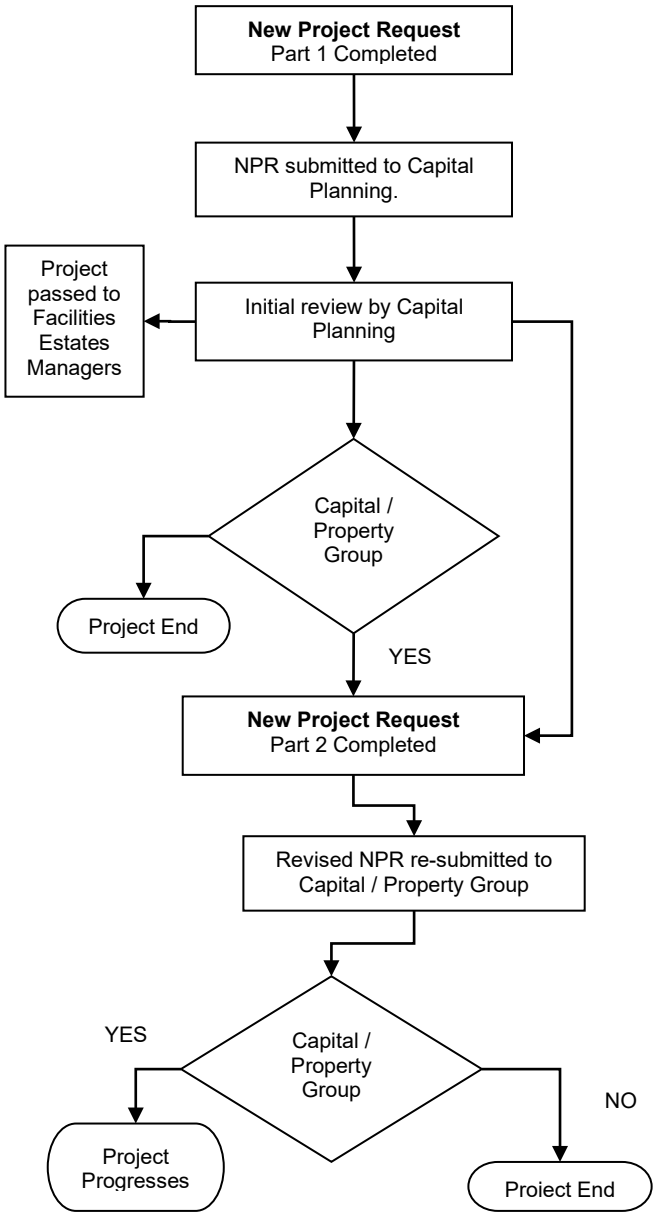
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

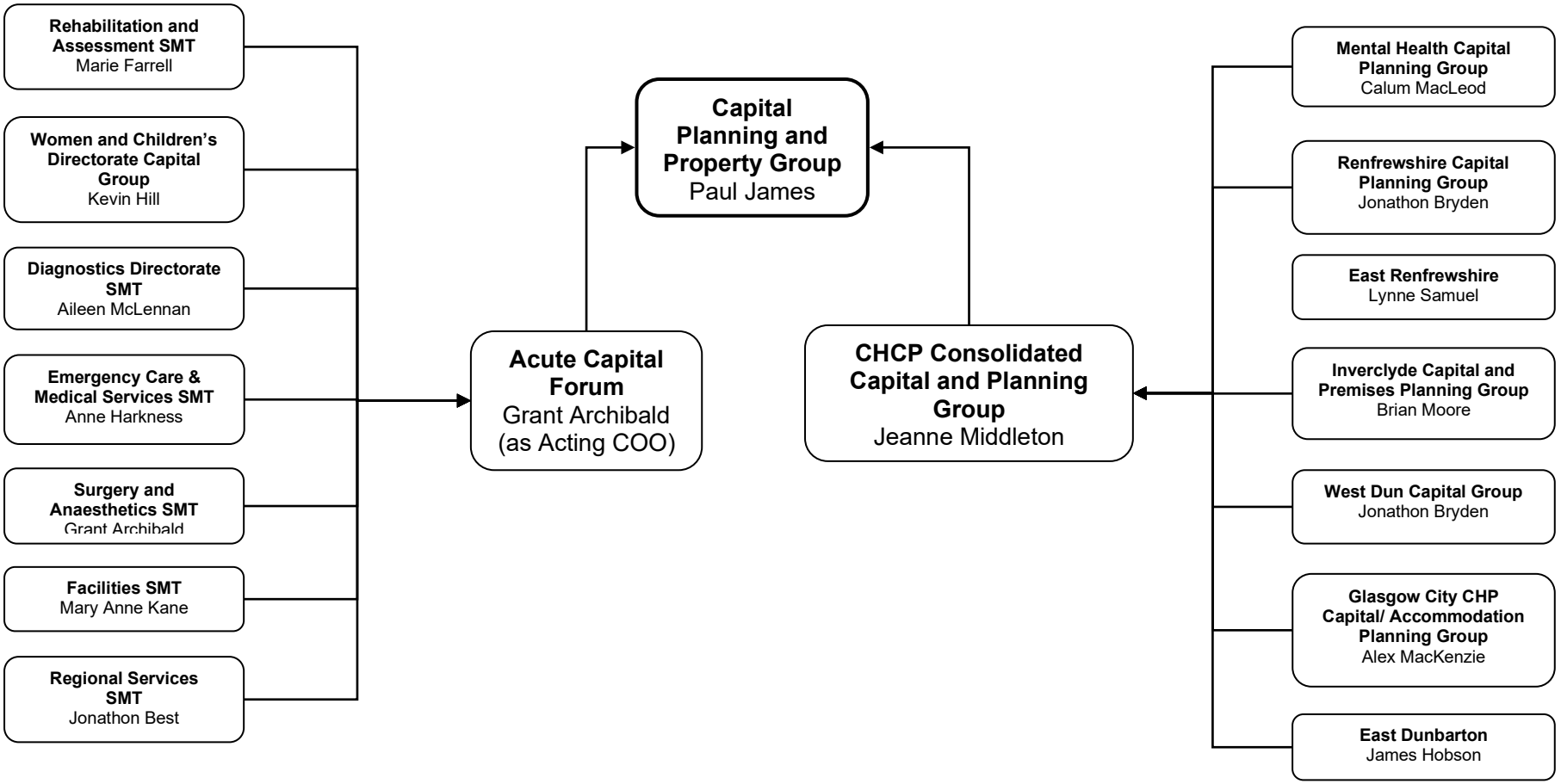
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

PART 1:
This part to be completed by the service

PROPOSED PROJECT PARTICULARS

Project Description
Enter a brief project description including site location.

The upgrading of Level D Plantroom within Inverclyde Royal Hospital, Greenock

Directorate or Partnership Sector
Enter Acute Directorate or Partnership

Acute Directorate

Project Sponsor
Enter name, role and contact details of responsible person who is making request and who will be the lead service contact for the project.

Alan Gallacher – Sector Estates Manager (Clyde) and NHSGG&C Energy & Carbon Lead

Project Owner
Enter name, role and contact details of line manager who supports the request and will present the project for decisions at governance boards. This should be a General Manager or equal .

Mary-Anne Kane – Interim Director of Facilities

Project Objectives
Enter description of objectives for the service provision to be met by the project.

- To ensure a continuous reliability and robustness of energy supply in terms of heat and domestic hot water to the main hospital complex by the upgrading of this main large plantroom serving this building;
- To introduce modern energy efficient technology to the estates in the guise of a 6 Plate Heat Exchangers (PHEx) which will allow the IRH to contribute an approx reduction in the NHSGG&C Caron Footprint in the region of 450 tonnes of CO2 and a saving in the region of 1,000,000kwh.
- To assist NHSGG&C to start to meet statutory and manadatory requirements around energy and carbon reduction (ie HEAT targets, CMP, SDAP etc).

Service Outcome (strategic fit & benefits)
Enter supporting narrative of strategic benefits.

- This aged facility is approx 35 years old and in need of a substantial investment to ensure a continuous supply of heat and hot water to the main hospital tower block. There has been a substantial number of breakdowns over the last couple of years which increased significantly during 13/14 which has led to the hospital having to look at putting in place measures to ensure patient warmth (ie local electric heaters in wards/ additional bedcovers etc) and in some casea this has had an effect on patient lists. This has had the additional negative effect in the local press on a number of occasions. There is very limited life left in the existing plant and without substantial investment there is a high risk of failure during the winter months of 14/15 and thereafter.
- This area has also been identified as a 'High Risk' within NHSGG&C's Estate's Asset Management (EAM) database.

Related Strategies and Policies
Enter

- NHSGG&C PAMs and EAMs strategies
- NHSGG&C CRP
- 'Workplace (Health, Safety and Welfare) Regulations 1992 ' around workspace temperatures

Stakeholders

Enter known stakeholders to be consulted during the project process.

- Patients, visitors and staff
- Staff groups
- Clinical Groups (which could affect patient lists)

Project Risks

Enter narrative of any identified project risks including where assumptions have been made that are not yet confirmed.

- Patients/Staff/Visitors - if this work is not undertaken then there is a distinct possibility patients will again be affected by periods of lack of heat and domestic hot water during the winter months
- Patients/Staff/Visitors – if this work is approved then major issue would be ensuring the logistic challenges of carrying out this work during Autumn and Winter months are minimal.

Identified Project Constraints and Exclusions

i.e. the service delivery target date by which project work requires to be complete, constraints on access to start, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects

- Maintaining existing heating and domestic hot water services during upgrading will be challenging but not unachievable. Considerable communication would need to be put in place with clinical groups ensuring all hurdles are looked at and an agreed collaborative way ahead is put in place to the benefit of the whole service.

Anticipated Revenue Implications

To be completed by the service.

Recurring	
Non-recurring	
Equipment Cost	
IT Cost	
Investment Period / Financial Year	

Completed by:	
Date	

PART 2

This part will be completed by Capital Planning or Estates.

Estimated Project Timeframe	
Design and Procurement	Design Complete, procurement would be through Public Contracts Portal. – 1 month
Construction	4 months

Commissioning	1 month
Total Anticipated Period	6 months including procurement

Identified Project Constraints and Exclusions *i.e. constraints on access to start, any known asbestos issues, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects.*
none

Estimated Capital Costs	
Approximate project cost inclusive of VAT and fees.	£500k
Comments *Include narrative of any particular inclusions or exclusions.*	

Completed by:	Alan Gallacher
Date	1/6/2014

Summary of Approvals		
Capital Planning Group *Tick one only*	Corporate Capital Planning and Property Group	
	Acute Capital Forum	x
	CH(C)P Consolidated Capital Planning Group	
	Mental Health (Inpatient) Capital Planning Group	
	Glasgow City CHP Capital / Accommodation Planning Group (inc. South Lanarkshire pending completion of boundary changes)	
	East Dunbartonshire	
	West Dunbartonshire	
	Inverclyde	
	East Renfrewshire	
	Renfrewshire	

New Project Request Approved	YES	
	NO	
Comments (relative to approval / non-approval) *Insert comments relative to approval / non-approval, date of meeting and attach copy of minutes.*		
Date		

From: Angus Horne
To: Powrie, Ian
Cc: John Horne
Subject: Yesterday"s meeting
Date: 06 June 2014 14:00:15

Dear Ian,

Thanks for orchestrating yesterday's meeting which I think went well. Are you able to say yet what the preferred way forward is now? As I mentioned to you previously we have a work-around if required and, despite that we had this with us, I didn't think it was required and so it stayed in the bag, and I really feel that the guidance should allow for the technology which we feel is demonstrably optimised in the current incarnation. I think the removal of important functionality and the insistence of a risk assessment is quite contrary since the functionality itself mitigates risk to a degree. The inclusion of the "missing sentence" which can be found in the English HTM might be the answer if it can be added to an amended SHTM since it allows for outlet fittings to be retained.

We of course are very keen to hear what was decided but we do respect the process and the necessary discretion. If there is anything more we can do to help please let me know.

Best regards,

Angus

From: Jimmy Walker
To: Stewart Ian (NATIONAL SERVICES SCOTLAND); Ritchie, Lisa (NHSmail); Powrie, Ian; Gallacher, Alan; Storrar Ian (NATIONAL SERVICES SCOTLAND); Southworth Paul (NATIONAL SERVICES SCOTLAND); McInally Iain (NHS AYRSHIRE & ARRAN); Gerry Cox
Cc: Curran Evonne (NATIONAL SERVICES SCOTLAND); O"Brien Geraldine (NATIONAL SERVICES SCOTLAND); McLaughlan Edward (NATIONAL SERVICES SCOTLAND); Bennett David (NHS TAYSIDE); Mather Ged (NHS BORDERS); Conway Mark (NHS TAYSIDE); Johnstone Alistair (NHS DUMFRIES & GALLOWAY); Bruce David (NHS TAYSIDE); Bryson David (NHS DUMFRIES & GALLOWAY); Davidson Graham (NHS GRAMPIAN); Wilson Alan (NHS FIFE); MacDonald Robert (NHS HIGHLAND)
Subject: RE: Horne Engineering Optitherm Taps
Date: 09 June 2014 11:07:36
Attachments: SGH mtg minutes IGS comments 060614 jtw.docx

Ian,
Many thanks for the timely mins - please find some suggested minor ammendments for consideration.

jimmy

Dr Jimmy Walker
Water System Microbiology and Decontamination Expert
PHE Biosafety Unit
Porton Down
Salisbury
SP4 0JG
[redacted]

From: Stewart Ian (NATIONAL SERVICES SCOTLAND) [redacted]
Sent: 09 June 2014 09:04
To: Ritchie Lisa (NATIONAL SERVICES SCOTLAND); Powrie Ian (NHS Greater Glasgow & Clyde); alan.gallacher[redacted] Storrar Ian (NATIONAL SERVICES SCOTLAND); Jimmy Walker; Southworth Paul (NATIONAL SERVICES SCOTLAND); McInally Iain (NHS AYRSHIRE & ARRAN); Gerry Cox
Cc: Curran Evonne (NATIONAL SERVICES SCOTLAND); O'Brien Geraldine (NATIONAL SERVICES SCOTLAND); McLaughlan Edward (NATIONAL SERVICES SCOTLAND); Bennett David (NHS TAYSIDE); Mather Ged (NHS BORDERS); Conway Mark (NHS TAYSIDE); Johnstone Alistair (NHS DUMFRIES & GALLOWAY); Bruce David (NHS TAYSIDE); Bryson David (NHS DUMFRIES & GALLOWAY); Davidson Graham (NHS GRAMPIAN); Wilson Alan (NHS FIFE); MacDonald Robert (NHS HIGHLAND)
Subject: Horne Engineering Optitherm Taps

Good morning to you all,

I am attaching notes of the meeting held at the new South Glasgow Hospital on 5th June which I hope you will find in order. These have also been circulated to members of the National Water Services Advisory Group for their information.

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk
Please consider the environment before printing this email.

NHS National Services Scotland is the common name for the Common Services Agency for the Scottish Health Service. www.nhsnss.org <http://www.nhsnss.org/>

Health Facilities Scotland
Engineering and Environment

NHS National Services Scotland

Minutes of special meeting held in the Labs FM Block at the South Glasgow Hospital to discuss and resolve issues with Optitherm taps installed in the Hospital

Date: 5th June 2014

Time: 11/00 am

Chairman: Ian Stewart (IGMS) Health Facilities Scotland

Present:		
	Lisa Ritchie (LR)	Health Protection Scotland
	Paul Southworth (PS)	Health Protection Scotland
	Alan Gallacher (AG)	NHS Greater Glasgow & Clyde
	Ian Powrie (IP)	NHS Greater Glasgow & Clyde
	Jim McFadden (JMcF)	NHE Greater Glasgow & Clyde
	Gerry Cox (GC)	Golden Jubilee Hospital
	Iain McInally (IMcI)	NHS Ayrshire & Arran
	Jimmy Walker (JW)	Public Health England
	Ian Storrar (IGS)	Health Facilities Scotland
	Angus Horne (AH)	Horne Engineering Ltd
	John Horne (JH)	Horne Engineering Ltd

Apologies: These had been received from Eddie McLaughlan and Geraldine O'Brien

1. **Welcome and introductions:**

   IGMS thanked everyone for their attendance and conducted the necessary introductions.

2. **Background information:**

   IGMS explained that following the neonate deaths in Northern Ireland in 2012 guidance had been published individually by DH and HPS/HFS with the aim of setting out precautions to avoid infections from *Pseudomonas* sp. SHTM 04-01 had been updated to replicate this. Scottish guidance was about to be reviewed.

State difference between HTM and STM

HTM

2.6 Devices fitted to, or close to, the tap outlet (for example flow straighteners) may exacerbate the problem by providing the nutrients which support microbial growth, providing a surface area for oxygenation

3.9 Owing to their high surface-area-to-volume ratio and location at the tap outlet, certain designs of flow straightener may present a greater surface area for colonisation and support the growth of organisms. Therefore, when selecting new taps, where possible flow straighteners should be avoided/not included. Health Building Note 00-09 also advises against using aerators in outlets.

4.49 b. Where practical, consider removal of flow straighteners. However, the removal of flow straighteners may result in splashing and therefore additional remedial action may need to be taken. If they are seen to be needed, periodically remove them and either clean/ disinfect or replace them. Replacement frequency should be verified by sampling/ swabbing.

SHTM Scottish Guidance: Part A p.65, note 12 – recommends removal of flow straighteners – suggested spell out the difference in Scotland.

Among the recommendations was advice that flow straighteners / aerators / rosettes should not be installed within taps in accommodation occupied by vulnerable (immunocompromised) patients.

Concern had been expressed that the South Glasgow Hospital- due for handover early in 2015 - incorporated taps with these features, principally Optitherm taps manufactured by Horne Engineering. The meeting had been requested by NHS GG&C to review their situation and an invitation issued to Horne Engineering had been taken up.

3. Horne Engineering presentation;

This was given by Angus Horne, Managing Director, who was grateful for the opportunity to attend.

The issue was illustrated showing the desirability of retaining a solid column of water delivered (laminar flow-fashion) from a tap outlet. It was necessary that this should not be broken up and aeraters should *never* be fitted to tap outlets ~~aerated~~. The importance of the stopping of water delivery coincidentally with the closing of the tap lever was stressed. If water continued to empty from the body of the tap, this would induce air providing scope for retrospective contamination. HSG274 (part 2 clause 2.46) stated that "wetted systems should not be drained down". While this referred to the commissioning of complete systems it was equally applicable to taps. JW explained this further in the context of self-draining showers that induced air into warm dark places that were introduced on the premise that self draining would reduce propensity for Legionella to grow in the shower head or hose – this was not found to be the case. -

A plea was made for the designation "flow straighteners" to be used in guidance. The devices integral with the Optitherm taps relied on a mesh made out of hexagonal holes to maintain surface temperature and hold back water within the tap body after shut-off.

Commented [JW1]: I thought Angus wanted the phrase "outlet fitting"

4. Discussion:

In discussion, JW illustrated the build-up of biofilms on similar outlet devices found in taps installed in Northern Ireland. JW had been advised that the build-up had occurred within 4 months. AH explained that a more open mesh did not

allow surface tension and water retention to be so efficiently achieved. Also illustrated was the extent of *Pseudomonas* contamination around a typical wash hand basin and the splashing that had occurred on the surroundings and floor. Contamination was also likely if correct procedures were not followed in the cleaning regime adopted. A cloth used to clean the WHB surfaces followed by the tap could create a "wicking" process and contamination of the inner surface at the point of discharge (current guidance is available on how to clean the wash hand basin and outlet) . A more open mesh did not allow surface tension and water retention to be so efficiently achieved. JW explained that a test rig had been set up at Porton Down. This had identified weak points liable to be contaminated as the tap outlet, the solenoid and the thermostatic valve. Testing had been carried out by injecting contamination to the pipework. Further research and experimentation would be required with *Pseudomonas* contamination applied at the point of delivery.

It was concluded that spout water retention was unlikely to eliminate *Pseudomonas* although a reduction may be possible. LR stressed the reasons for incorporating the six critical points in the existing and forthcoming updated guidance. Risk management was the key. *Pseudomonas* elimination was the holy grail. Influences on outcomes included, commissioning procedures, operational management, seasonal influences and personnel involved. The approach had to be tailored to individual circumstances. There was no fixed rule.

IGMS thanked Horne Engineering for taking the time to explain the working of their product and suggested that they should take the opportunity to give presentations to the National Water Services Advisory Group on future innovative products.

5. Action arising from presentation:

5.1 **Forthcoming HPS/HFS guidance**: It was felt that the six critical points referred to and the risk-based proportional approach was still appropriate and no alteration appeared necessary. The review of the guidance would be circulated to the Water Group and to SETAG.
Action: IGMS

5.2 **SHTM 04-01** would similarly be unaffected as it replicated the HPS/HFS guidance being issued for review. IGMS pointed out that it now incorporated more helpful advice on the setting up of water safety groups.

5.3 **The South Glasgow Hospital**: it was unanimously agreed that as the taps installed within the new build development had complied with guidance current at the time of its specification and briefing and that the hospital was in the process of being commissioned, it should be regarded as being in the "retrospective" category, not "new build". There was no need to apply additional flow control facilities or remove

flow straighteners and any residual perceived or potential risks would form part of the routine management process.

5.4 **Future research**: It was agreed that there was a need to determine whether the retention of water within the body of taps offered a better solution to that of ensuring that none was retained.

Ian Stewart
Health Facilities Scotland
5th June 2014

Chilled Water System Description

The total cooling load for the site is met by 7 no. air cooled chillers (Carrier type 30XA1002) at 992kW each and one 1055kW absorption chiller (Sanyo type 16LJ-32). The total installed chilling capacity is 8000kW.

For resilience purposes the cooling plant is installed as two separate systems, designated plantroom ‘A’ and ‘B’, with each part sharing the total load.

3 no. air cooled chillers are located on the roof of plantroom ‘A’. 4 no. air cooled chillers are located on the roof of plantroom ‘B’. The Absorption Chiller is located on Level 2 plantroom ‘A’, while the 2 no. Dry Air Coolers (VDD-907) serving this Absorption Chiller are located on the roof of plantroom ‘A’.

The chilled water systems are 100% water (no glycol) with trace heating protection where the pipework is exposed on the roof. The roof pipework is insulated and aluminium cladded for weathering purposes.

The total max. design load required is 3700kW, which can be met by four chillers. Each cooling plant can approach a capacity of 60% of the total building load, which is sufficient to allow the hospital to continue to function in the event of a catastrophic failure on one system.

In order to reduce carbon emissions, CHP plant has been installed on the ground floor of the Energy Centre and is used to the take the waste heat in the summer for cooling utilizing the Absorption Chiller. In this case, the cooling capacity Absorption Chiller shall act as lead chiller whenever there is sufficient cooling load and a demand for waste heat. The heat driven chiller still needs to reject the cooling effect and this is achieved by using the 2 no. Adiabatic Dry Air Coolers which are mounted on the roof of plantroom ‘A’ of the Energy Centre.

The Absorption Chiller and Dry Air Coolers are linked by a closed loop condenser water circuit with water temperature controlled by fan operation on each Dry Air Cooler.

From the Energy Centre, the Chilled Water pipework systems run to serve air-handling equipment & CHW exchanger skids in the various plantroom areas and terminal cooling equipment in selected spaces within the A&C Building.

Primary chilled water circuits run from the Energy Centre in pre-insulated underground pipework (Starpipe) in 2 separate legs ‘A’ & ‘B’ over to the A&C Building to a common header within the basement manifold room.

The primary circuit operates at nominal design flow and return temperatures of 6ºC and 14ºC respectively scheduled to outside air temperature.

The Primary chilled water system includes the following elements housed within the Energy Centre Building:

- Chilled water pressurisation units (type Wilo Comfort 225) c/w associated expansion vessels to maintain the 3.5 bar pressure in the primary chilled water System (level 2 plantrooms ‘A’ & ‘B’)

- Multiple secondary circulation pumps to distribute the water across to the A&C Building (level 2 plantrooms ‘A’ & ‘B’)
- Combined air/ dirt separators on the main return pipework for each plantroom (level 2 plantrooms ‘A’ & ‘B’).
- An active de-aeration unit on the main flow pipework wired back to the BMS system (level 2 plantrooms ‘A’ & ‘B’).
- Primary twin head shunt pumps (roof level plantrooms ‘A’ & ‘B’).
- Manual dosing pots located on level 2 plantrooms ‘A’ & ‘B’ so the system can get treated with corrosion inhibiting chemicals

Individual twin head shunt pumps for each chiller ensure a stable design flow rate through each chiller and then form a common primary pipe loop.

The circulating pumps are controlled by the BMS in sequence as needed to match the varying load demand. This maintains the pressure differential between flow and return pipework within set limits with sensors located within the main sub-distribution pipework.

The system does not permit any of the primary circuit pumps to operate at less than 40% of their design maximum.

A motorised bypass valve is provided on each pump set to ensure that a minimum of 40% is achieved. Differential pressure control valves protect the downstream control valves from excessive pressures and nullifying the effects of pressure variations caused by the movement of control valves in other branches.
.
Plate heat exchangers located within the A&C Building Plantrooms have been selected to provide a percentage of the total design duty as indicated on the drawings. Sizing is on the basis of primary side flow and return temperatures of 7ºC and 13ºC respectively and secondary side temperatures of nominally 8ºC and 13ºC flow and return.

From:	Mills, Clare
To:	Campbell, Carole; Carr, Michelle; Cassidy, Annette; Cheaitou, Janet; Cleaver, Don; Dawes, Heather; Dodd, Angela; Dorrian, Grace; Forsyth, Ailsa; Gallacher, Alan; Gilmore, John; Glass, Bill; Groom, Susan; Halliday, Seonaid; Hamilton, Kate; Hamilton, Pauline; Inkster, Teresa (NHSmail); Johnston, Elaine; Kane, Mary Anne; Loughran, Kate; MacKay, Elizabeth; Martin, Elaine; McEwan, Katie; McFadden, Jim; McGuigan, Mags; McIntyre, Hazel; McMullin, Linda; McNeil, Elaine; Menzies, John; Mills, Gareth; Nealis, Ron; Philp, Pamela; Powrie, Ian; Rankin, Linden; Russell, Steve; Shankland, Anne; Smith, Euan; Traquair Smith, Ann; Walker, Susan; Ward, Danielle; Whiteford, Ryan; Williams, Craig
Subject:	TUMM Mtg 17/06/14
Date:	10 June 2014 12:56:29
Attachments:	TUMM 17 06 14.doc TUMM 15 04 14.doc Theatre Light Template MASTER.xls Theatre Table Template MASTER.xls Air_sampling_policy_Feb_20101.doc

---

Hi

Please find attached papers for the next meeting on **17/06/14** at **9am** in **Conference Room 2.16B, Level 2, VACH.**

1. Agenda
2. Notes of previous mtg
3. Theatre Light Database
4. Theatre Table Database
5. Air Sampling Policy.

-

Apologies have been received from: Kate Hamilton.

Thanks.

Clare Mills
PA to CSMs for
Theatres and Anaesthetics (South and ACHs)
General Surgery (South)

SURGERY AND ANAESTHETICS

Theatre Users Maintenance Management Group

Tuesday 17 June 2014 at 9am in
Conference Room 2.16B, Level 2, VACH

AGENDA

1. Apologies

2. Notes from previous meeting (15 April 2014)

3. Capital Schemes

   - 2013/14 progress
   - Capital schemes procedure
   - 2014/15 schemes
   - Theatre Lights Database (attached)

4. HEI Programme

   - Infection control audits updates
   - Risk Assessments update

5. Estates Database :

   - Theatre Maintenance 14/15 plan
     a. Standard of cleaning to be undertaken after maintenance
   - Updates from sites (exception only)
   - Treatment Rooms

6. Theatre Painting Programme

7. A.O.C.B.

8. Date of next meeting: 19 August 2014.

Surgical and Anaesthetic Directorate

NHS Greater Glasgow and Clyde

Theatre Users and Maintenance Management Meeting

Notes of the meeting held on
Tuesday 15 April 2014
at 9am
2.16B Conference Room, Level 2, VACH

Present:

Linda McMullin **(CHAIR)**	CSM Theatres and Anaesthetics (South and ACHs)	VI	LMcM
Seonaid Halliday	Lead Nurse, Theatres and Anaesthetics (South)	SGH	SH
Mags McGuigan	Lead Nurse, Theatres and Anaesthetics (RHSC)	RHSC	MMcG
Alan Gallacher	Sector Estates Manager (Clyde)	RAH	AG
Ian Powrie	Sector Estates Manager (NSGH)	SGH	IP
Steve Russell	Senior Project Manager, Capital Planning	GRH	SR
John Gilmore	Senior Sector Estates Manager (North)	GRI	JG
Gareth Mills	Estates Officer (Clyde)	VoL	GM
Euan Smith	Sector Estates Manager (West)	GGH	ES
Craig Williams	Consultant Microbiologist	RHSC	CW
Ron Nealis	Site Maintenance Manager	STOB	RN
Elaine Martin	Acting CSM Theatres and Anaesthetics (Clyde)	RAH	EM
Anne Rhodes	Acting Lead Nurse, Theatres and Anaesthetics (RAH and IRH)	RAH	AR
Lynn Dempsey	Acting Lead Nurse, Theatres and Anaesthetics (VoL)	VoL	LD
Clare Mills	PA to CSM	VI	CM

<table>
<tr><th>ITEM</th><th></th><th>ACTION</th></tr>
<tr><td>1.</td><td><u>APOLOGIES</u></td><td></td></tr>
<tr><td></td><td>Michelle Carr, Susan Groom, Bill Glass, Kate Hamilton, Pam Philp, Alyson Goodwin, Ryan Whiteford and John Menzies.</td><td></td></tr>
<tr><td>2.</td><td><u>NOTES OF PREVIOUS MEETING (18/02/14)</u></td><td></td></tr>
<tr><td></td><td>The notes of the previous meeting were accepted as a true record.

Update on action points from previous meeting.
<table>
<tr><th>ITEM</th><th>ACTION</th><th>WHO</th></tr>
<tr><td>3.</td><td>Capital Schemes Process to be recirculated. This has been done but SR advised this process has now been updated. SR to forward update to</td><td>SR</td></tr>
</table></td><td></td></tr>
</table>

	CM.	
4.	HEI Programme – Update to be provided. This has to be c/f to the next mtg.	**KH**
5.	Estates Database to be updated – AG confirmed this has been done. He will send to CM for distribution.	**AG**

3. CAPITAL SCHEMES

Capital Schemes 13/14 Plan

Clyde	RAH	• Changing room upgrade/ lockers – AG thinks this will be picked up through slippage.	
	IRH	• AHU (Day surgery) – AG advised there was an evaluation assessment carried out last year and the cost is extremely high. EM advised throughput would need to be maintained. AG and EM to discuss further. Additional discussions to take place with SG. • Door replacements – EM confirmed this is still outstanding. This was meant to start in September 13 but was changed to last weekend. Only 3 doors have been replaced. AG agreed to pick this up with Ross Campbell.	**AG/EM** **AG**
North	GRI	• Theatre G and H ventilation system. Scheme to be commenced as soon as slippage has been approved but SR does not envisage any issues. • JG advised to do duct work in one theatre requires three to be taken out.	
West	GGH	• T1 – replaced last year.	

- CW advised he needs a position paper from SEMs re the need to change duct work at time of replacing AHUs. This needs to be discussed at a higher level. AG agreed to take this forward as there is further input required. **AG**

Capital Schemes 14/15 Plan

North	GRI	• Theatre K and L – Kate Loughran had previously submitted a PID but JG will get her to complete the new form and resubmit.	**JG**
RHSC		• Scope Room – could pendants be removed as these are causing head injuries. Datix forms have been submitted. MMcG to pick this up with JMcF.	**MMcG**

- Theatre Lights – discussion took place around replacing theatre lights. SR advised this would come under Capital Schemes as opposed to Capital Equipment as was previously. Clinicians need to be involved in any decision made re lights. In NSGH the theatre lights are all from the same manufacturer. IP to check and confirm if these are LED lights. LMcM will get a template set up and sent to Lead Nurses to complete re all their theatre lights. JG, SH and ES to provide some feedback on newly installed **IP** **LMcM** **JG/SH/ES** **AG**

	/ purchased theatre lights. *Capital Schemes Procedure* • SR tabled a paper "New Project Requests". SR to send to CM for distribution to the group. • Forms need to be submitted for approval. No allocations are approved unless the form is complete. • Group to agree priority and submit to GMs to take to Director for approval before being submitted to Capital Planning Team.	**SR** **ALL**
4.	**HEI PROGRAMME**	
	• Estates issues have to be removed from SPE Audit	
5.	**ESTATES DATABASE – THEATRE MAINTENANCE AND VERIFICATION**	
	Estates database needs to be updated.	

Clyde	IRH	• No issues	
	RAH	• No issues	
	VoL	• No issues	
South	SGH	• Uro 2 – has been done. Updated database to be circulated. • Ortho 3 – Previously minor temperature issue but this has now been resolved. • Neonat1 & 2 – Information on database is wrong. AG to pick this up.	**AG** **AG**
	VI	• T1 – has been done. Updated database to be circulated. • T3 - has been done. Updated database to be circulated.	**AG** **AG**
West	WIG	• T4 – this has been validated (Oct 13) and airflow reading has been rectified. ES to get report from H&V.	**ES**
	GGH	• Beatson T1 – not validated. ES to pick this up. • T hF – this has been validated but no report has been received. ES to pick this up. • Th H – this is over due. ES to pick this up. • Flexi Room – to be removed from template and added onto the treatment room template.	**ES** **ES** **ES** **AG**
North	GRI	• No issues	
ACHs	VACH	• LMcM advised she has concerns that the airflow readings are sitting at around 15 – it was hoped these should have been more considering the age of the plants.	
	STOB	• Same concerns as VACH.	
RHSC		• Cath Lab – has been done. Updated template to be circulated. Airflow reading now at 30.	**AG**

• CW has concerns re non compliance but AG advised these are concerns re technical requirements only. CW advised a risk assessment needs to be	**AG**

	done. • CW also enquired what the database measures. AG confirmed this is airflow only. The need to alter what was being measured was discussed. • Need to ensure SEMs are involved when audits are about to start. SEMs have to be invited to audit mtgs. CW will take this forward. • Validation / verification exceptions will be picked up via AICC. SEMs need to ensure template is fully up-to-date. *Theatre Maintenance 14/15 Plan* This item was not discussed. *Treatment Rooms / Minor Op Rooms* AG to look at recommendations to determine if these rooms require to be monitored. AG to provide and update.	**AG** **CW** **SEMs** **AG**
6.	**THEATRE PAINTING PROGRAMME**	
	JG reported there is currently no budget for this and asked how to go about securing funding as this needs to be re-established. IP advised the theatres should only be painted every 5-7years. NSGH has funding for "backlog maintenance" and JG should maybe try via this route. Wall washing – AG to pick this up This item has to remain on the agenda.	**JG** **AG**
7.	**A.O.C.B.**	
	New South Glasgow Hospital (NSGH) • IP tabled a paper on the checks and frequency of these in NSGH and downtime to carry these out. This equates to around 1 theatre every two weeks being down. • INS and Gyn theatres have still to be added. • Commissioning – IP advised should start to see documentation around December. IP will ask for copies and forward to CW. *Theatre Ventilation Maintenance / Verification Procedure & Governance Arrangements* SEMs to have further discussions re this document. Ventilation Policy to be discussed at the same time.	**IP** **SEMs**
8.	**ACTIONS**	

ITEM	ACTION	WHO
2.	• HEI Programme – KH to provide an update. • Estates Database – AG to send update to CM for distribution.	**KH** **AG**
3.	*Capital Schemes update (13/14)* • IRH AHU – Ag and EM to discuss further • IRH Door replacement – AG to chase this up.	**AG/EM** **AG**

	• ????Position Paper – this needs further work/ discussions. AG to take this forward.	**AG**
	Capital Schemes (14/15) • GRI Theatre K and L – JG to get KLoughran to resubmit new forms. • RHSC Scope room – MMcG to pick up the removal of pendants with JMcF. • Theatre Lights NSGH – IP to check if new lights are LED. • Theatre Lights GG&C – LMcM to collate data for all lights currently within GG&C. JG. SH and ES to provide feedback on lights recently installed / purchased. AG to complete forms for all new lights.	**JG** **MMcG** **IP** **LMcM** **JG/SH/ES** **AG**
	Capital Schemes Process • Capital Schemes Process - SR to forward updated New Projects Requests to CM for distribution. • Priorities need to be agreed and submitted to GMs for Director's approval.	**SR** **ALL**
4.	*HEI Programme* • Estates issues have to be removed from SPE Audit.	
5.	*Estates Database* • SGH Uro 2 - Database to be updated • SGH Neonat 1 & 2 - Database to be updated • VI T1 - Database to be updated • VI T3 - Database to be updated • WIG T4 – ES to get report from H&V • GGH Beatson T1 – not validated. ES to take this forward • GGH Th F - ES to get report from H&V • GGH Flexi room – AG to remove from database • RHSC Cath Lab - Database to be updated • AG to complete risk assessment for non-compliance • Info on database needs to be looked at • Validation / verification exceptions being picked up at AICC. SEMs to ensure template is up to date. SEMs to be invited to audit mtgs *Treatment / Minor Op Rooms* AG to look at recommendations and provide an update.	**AG** **AG** **AG** **AG** **AG** **ES** **ES** **ES** **AG** **AG** **AG** **AG** **SEMs** **CW** **AG**
6.	*Theatre Painting Programme* • JG to look into funding for "backlog maintenance"	**JG**

		• Wall washing – requirement/fundingAG to pick this up	**AG**
	7.	*A.O.C.B.* *NSGH* • Commissioning – IP to forward documentation to CW when these have been received. *Theatre Ventilation Maintenance / Verification Procedure and Governance* • SEMs to have further discussions re this document • Ventilation Policy also to be discussed	**IP** **SEMs** **SEMs**
	DATE AND TIME OF NEXT MEETING		
	The next meeting will take place on **Tuesday 17 June 2014 at 9am in 2.16B Conf Room , Level 2, VIACH**		

6.3 Theatre Light Template MASTER.xls

Site	Make	Model	Serial No	Age	Location	Maintenance Contract (Y/N)
GGH	Berchtold	Chromophare	6000030-H 10271 (LG)		Theatre A	
GGH	Berchtold	Chromophare	5900030-H 10243 (SM)		Theatre A	
GGH	Berchtold	Chromophare	10267		Theatre B	
GGH	Berchtold	Chromophare	10242		Theatre B	
GGH	Berchtold	Chromophare	10266		Theatre C	
GGH	Berchtold	Chromophare	10241		Theatre C	
GGH	Berchtold	Chromophare	6000050-H 10270		Theatre G	
GGH	Berchtold	Chromophare	5900030-H 10242		Theatre G	
GGH	Berchtold	Chromophare	5910060-K 14755		Theatre H	
GGH	Berchtold	Chromophare	5911060-K 14756		Theatre H	
GGH	Hanaulux	2007	2000003	being replaced in May	Theatre D	
GGH	Hanguport	Hannaulux	9407524 GEE1823		Theatre 1 DSU	
GGH	Hanguport	Hannaulux	9407525 GEF1824		Theatre 2 DSU	
GGH	Hanguport	Hannaulux	9407526 GEI1825		Theatre 3 DSU	
GGH	Hanguport		9704096	13	Theatre J	
GGH	Hanguport		9705001	11	Theatrre J	
GGH	Maquet		568243510-C		Theatre I	
GGH	Starkstrom	Marled	MV10B2C2117	Feb-14	Theatre E	
GGH	Starkstrom	Marled	1410182	Feb-14	Theatre E	
GGH	Starkstrom	Marld	MV10B2A	Apr-14	Theatre F	
GGH	Starkstrom	Marled	1714L1156	Apr-14	Theatre F	
GRI	Berchtold	Chromopore	60000000-G10062	?	Theatre S	n
GRI	Berchtold	Chromopore	60000000-G10062	?	Theatre S	n
GRI	Maquet	4001	AR001510	14YRS	Theatre A	y
GRI	Maquet	8000	AR001243	14YRS	Theatre A	Y
GRI	Maquet	4000	AR002952	14YRS	Theatre B	y
GRI	Maquet	8000	AR001068	14 YRS	Theatre B	y
GRI	Maquet	4001	AR000696	14YRS	Theatre C	y
GRI	Maquet	8000	AR001074	14YRS	Theatre C	y
GRI	Maquet	4000	AR001374	14YRS	Theatre D	y
GRI	Maquet	8000	AR001084	14YRS	Theatre D	y
GRI	Maquet	2003	9202080	19 YRS	Theatre E	y
GRI	Maquet	2005iXL	9801010	19 YRS	Theatre E	y
GRI	Maquet	4000	AR002662	14YRS	Theatre F	y
GRI	Maquet	8000	AR001686	14YRS	Theatre F	y
GRI	Maquet	PWD500	AR001069	1YR	Theatre G	y
GRI	Maquet	PWD500	AR002661	1YR	Theatre G	y
GRI	Maquet	2004	1000638	19YRS	Theatre H	y
GRI	Maquet	2204	1000637	19YRS	Theatre H	y

6.3 Theatre Light Template MASTER.xls

GRI	Maquet	XTEN	AR010033	9YRS	Theatre M	y
GRI	Maquet	XTEN	AR010046	9YRS	Theatre M	y
GRI	Maquet	2004	4990	19YRS	Theatre N	y
GRI	Maquet	2004	4984	19YRS	Theatre N	y
GRI	Maquet	AX10	AR000398	13YRS	Theatre PRM 1	y
GRI	Maquet	AX4	AR000572	13YRS	Theatre PRM 1	y
GRI	Maquet	AX10	AR000637	13YRS	Theatre PRM 2	y
GRI	Maquet	AX4	AR000553	13YRS	Theatre PRM 2	y
GRI	Maquet	XTEN	AR020656	13YRS	Theatre PRM 3	y
GRI	Maquet	XTEN	AR020666	13YRS	Theatre PRM 3	y
GRI	Maquet	BLUE 30	AR03330	6 YRS	Theatre PRM 4	y
GRI	Maquet	XTEN	AR020657	6 YRS	Theatre PRM 4	y
GRI	Maquet	XTEN	AR020668	6 YRS	Theatre PRM 4	y
GRI	Maquet	BLUE 30	AR013335	6YRS	Theatre PRM 5	y
GRI	Maquet	XTEN	AR020660	6 YRS	Theatre PRM 5	y
GRI	Maquet	XTEN	AR020669	6 YRS	Theatre PRM 5	y
GRI	Maquet	2005iXL	98004173	19YRS	Theatre R	y
GRI	Maquet	2005iXL	98004716	19YRS	Theatre R	y
GRI	Maquet	AX10	AR000566	13YRS	Theatre U1	y
GRI	Maquet	AX10	AR000564	13YRS	Theatre U1	y
GRI	Maquet	AX10	AR000578	13YRS	Theatre V2	y
GRI	Maquet	AX10	AR000561	13YRS	Theatre V2	y
GRI	Maquet	AX10	AR000573	13YRS	Theatre W3	y
GRI	Maquet	AX10	AR000576	13YRS	Theatre W3	y
GRI	Maquet	AX10	AR000562	13YRS	Theatre X4	y
GRI	Maquet	AX10	AR000563	13YRS	Theatre X4	y
GRI	Maquet	AX10	AR000564	13YRS	Theatre Y5	y
GRI	Maquet	AX10	AR000577	13YRS	Theatre Y5	y
GRI	Maquet	AX10	AR000574	13YRS	Theatre Z6	y
GRI	Maquet	AX10	AR000575	13YRS	Theatre Z6	y
IRH	ALM	5 672 37 998	AR001834		Day Surgery - Main	N
IRH	ALM	5 672 36 989	AR000831		Day Surgery - Satellite	N
IRH	ALM	5 672 37 998	AR001164		TH3 - Main	N
IRH	ALM	5 672 36 989	AR000696		TH3 - Satellite	N
IRH	ALM	5 670 16 999	E7501DF029436R		TH4 - Main	N
IRH	ALM	?	?		TH4 - Satellite	N
IRH	ALM	5 670 16 999	E7501DF029681R		TH6 - Main	N
IRH	ALM	?	?		TH6 - Satellite	N
IRH	Hanaulux	56076864/2004i	9507022		TH1 - Main	N
IRH	Hanaulux	2003i	?		TH1 - Satellite	N
IRH	Hanaulux	56076869/2005iXL	9604065		TH2 - Main	N
IRH	Hanaulux	56076869/2005iXL	9604060		TH2 - Satellite	N

6.3 Theatre Light Template MASTER.xls

IRH	Hanaulux	56076869/2005iXL	9604059		TH5 - Main	N
IRH	Hanaulux	56076869/2005iXL	9604058		TH5 - Satellite	N
RAH	ALM MAQUET	567237998	AR002896-0012314	12	IP TH 4	N
RAH	ALM PRISMALIX		AR000365-002417	11	IP TH 8	N
RAH	ALM5 MAQUET	SAL DF V	UK1362 6401	3	IP TH 5	N
RAH	ALM5 MAQUET	XTEN DF DUO	11224/11225	5	MATERNITY TH A	N
RAH	ALM5 MAQUET	XTEN DF DUO	11226/11227	5	MATERNITY TH B	N
RAH	HERAEUS	HANALUX MELBOURNE		30	DS TH 1	N
RAH	HERAEUS	HANALUX MELBOURNE		30	DS TH 2	N
RAH	HERAEUS	HANALUX MELBOURNE	E4095	30	IP TH 1	N
RAH	HERAEUS	HANALUX MELBOURNE	E4011	30	IP TH 2	N
RAH	HERAEUS	HANALUX MELBOURNE	E4014	30	IP TH 3	N
RAH	HERAEUS	HANALUX MELBOURNE	E4017	30	IP TH 6	N
RAH	HERAEUS	HANALUX MELBOURNE	E4009	30	IP TH 9	N
RAH	KLS MARTIN	MLHS5P1B	12080941899	5	IP TH 7	N
RHSC	Maquet	AX	1560377	18	Scope room	N
RHSC	Maquet	AX14	1561313	18	T1	N
RHSC	Maquet	AX4	1560376	18	T1	N
RHSC	Maquet	AX14	1561363	18	T2	N
RHSC	Maquet	AX4	1560378	18	T2	N
RHSC	Maquet	AX14	1561301	18	T3	N
RHSC	Maquet	AX4	1560293	18	T3	N
RHSC	Maquet	Xten	AR020300	18	T4	N
RHSC	Maquet	Xten	AR020192	18	T4	N
RHSC	Maquet	AX10	1555440	18	T5	N
RHSC	Maquet	AX10	1555376	18	T5	N
RHSC	Maquet	AX14	1561305	18	T6	N
RHSC	Maquet	AX4	1560375	18	T6	N
RHSC	Maquet	AX14	AR000562	18	T7	N
RHSC	Maquet	AX4	AR002759	18	T7	N
SGH	HERAEUS	HANAULUX 2003			GENERAL 1	Y
SGH	HERAEUS	HANAULUX 2007			GENERAL 1	Y
SGH	HERAEUS	HANAULUX 2003	9703152		GENERAL 2	Y
SGH	HERAEUS	HANAULUX 2004			GENERAL 2	Y
SGH	HERAEUS	HANAULUX 2004		17	ORTHO 1	Y
SGH	HERAEUS	HANAULUX 2004		17	ORTHO 2	Y
SGH	HERAEUS	ALMPRISMALIX	80182	10	ORTHO 3	Y
SGH	HERAEUS	HANAULUX 2004	9302010		UROLOGY 1	Y
SGH	HERAEUS	HANAULUX 2007	9301082		UROLOGY 1	Y
SGH	HERAEUS	HANAULUX 2004	9301084		UROLOGY 2	Y
SGH	HERAEUS	HANAULUX 2007	9302011		UROLOGY 2	Y
SGH	MAQUET	567201351	AR010581		GYNAECOLOGY 1	Y

6.3 Theatre Light Template MASTER.xls

SGH	MAQUET	567201351	AR001135		GYNAECOLOGY 2	Y
STOB	Maquet	XTEN	AR020523 &AR020516	5yrs	Theatre 1	Y
STOB	Maquet	XTEN	AR020530 &AR020518	5yrs	Theatre 2	Y
STOB	Maquet	XTEN	AR020515 &AR020529	5yrs	Theatre 3	Y
STOB	Maquet	XTEN	AR020521 &AR020514	5yrs	Theatre 4	Y
STOB	Maquet	XTEN	AR020517 &AR020522	5yrs	Theatre 5	Y
STOB	Maquet	XTEN	AR020528 &AR020519	5yrs	Theatre 6	Y
VACH	Maquet	XTEN	ARO2094,ARO20525	5	TH 1	Yes - Maquet
VACH	Maquet	XTEN	ARO20533,ARO20506	5	TH 2	Yes - Maquet
VACH	Maquet	XTEN	AR020491,ARO20527	5	TH 3	yes - Maquet
VACH	Maquet	XTEN	AR020499,ARO20473	5	TH 4	Yes - Maquet
VACH	Maquet	XTEN	ARO20526,ARO20489	5	TH 5	Yes - Maquet
VACH	Maquet	XTEN	ARO20534,ARO20492	5	TH 6	Yes - Maquet
VACH	Maquet	XTEN	ARO20493,ARO20532	5	TH 7	Yes - Maquet
VACH	Maquet	XTEN	ARO20513,ARO20524	5	TH 8	Yes - Maquet
VIC	Angenieux	AX14	1560601	20+	Theatre 1	
VIC	Angenieux	AX4	1558024	20+	Theatre 1	
VIC	Angenieux	AX14	1560076	20+	Theatre 2	
VIC	Angenieux	AX4	1557152	20+	Theatre 2	
VIC	Angenieux	AX14	1560601	20+	Theatre 3	
Vic	Angenieux	AX4	1559563	20+	Theatre 3	
VIC	Angenieux	AX14	1561451	17	Theatre 8	
VIC	Angenieux	AX4	1460569	17	Theatre 8	
VIC	Maquet	Powered 500 DFV K3	568350932	1	Theatre 4	
Vic	Maquet	Powered 500 DFV K3	568350933	1	Theatre 4	
VOL	HANAULUX	MELBOURNE	689051	25	Theatre 1	Yes - Maquet
VOL	HANAULUX	MELBOURNE	689006	25	Theatre 2	Yes - Maquet
VOL	MAQUET	POWELED 500 plus DFVK3	AR040043	1	Theatre 2	Yes - Maquet
WIG	Berchtold	CHROMOPHARE D650 PLUS	6046040-J12167	UNKNOWN	LEVEL 2 THEATRE A	N
WIG	Berchtold	CHROMOPHARE D530	5900030-H10240	UNKNOWN	LEVEL 2THEATRE B	N
WIG	Berchtold	CHROMOPHARE D650	6000030-H10265	UNKNOWN	LEVEL2 THEATRE B	N
WIG	HERAEUS	HANAULUX	GEC1687	UNKNOWN	LEVEL 5 THEATRE 2	N
WIG	HERAEUS	HANAULUX	UNREADABLE	UNKNOWN	LEVEL 5 THEATRE 2	N
WIG	HERAEUS	HANAULUX 2003	UNREADABLE	UNKNOWN	LEVEL 5 THEATRE 3	N
WIG	HERAEUS	HANAULUX 2007	UNREADABLE	19	LEVEL 5 THEATRE 3	N
WIG	HERAEUS	HANAULUX 2004	9109028	20+	LEVEL 5 THEATRE 4	N
WIG	HERAEUS	HANAULUX 2004	9109025	20+	LEVEL 5 THEATRE 4	N
WIG	Maquet	Powerled 500/DF/K3	AR040166	1	LEVEL 5 THEATRE 1	Y
WIG	Maquet	Powerled 500/DF/V/K3	AR040024	1	LEVEL 5 THEATRE 1	Y
WIG	Berchtold	CHROMOPHARE D650 PLUS	6000040-I10928	UNKNOWN	LEVEL 2 THEATRE A	N

6.4 Theatre Table Template MASTER.xls

Site	Make	Model	Serial No	Age (Yrs)	Location	Maintenance Contract (Y/N)
GGH	Eschmann	MR	MR1890	10 YEARS +	DSU Theatre 1	N
GGH	Eschmann	MR	MR836		DSU Theatre 3	N
GGH	Eschmann	MR	MR2043		Theatre D	N
GGH	Maquet	Betastar	961	8 years +	DSU Theatre 2	Y
GGH	Maquet	Alphamaxx	481		Theatre A	Y
GGH	Maquet	Alphamaxx	443		Theatre B	Y
GGH	Maquet	Alphamaxx	418	2 months	Theatre C	Y
GGH	Maquet	Alphastar plus	434		Theatre E	Y
GGH	Maquet	Alphastar plus	77		Theatre F	Y
GGH	Maquet	Betastar	959		Theatre G	Y
GGH	Maquet	Orthostar	GEET769	10 YEARS +	Theatre H	Y
GRI	Eschmann	T30-M+	T3MB3J1253	6 months	Theatre M	
GRI	Eschmann	Rx600	R6AC-1A-1017	?	Theatre N	
GRI	Eschmann	Rx500	R5AC9B-1073	?	Theatre R	
GRI	Maquet	113312B3	441	5 years +	Theatre 4	y
GRI	Maquet	113353BC/09		4.5 years	Theatre 5	y
GRI	Maquet	Betastar	1026	7	Theatre A	y
GRI	Maquet	Alphamaxx	428	7	Theatre B	y
GRI	Maquet	Alphamaxx	390	1	Theatre C	y
GRI	Maquet	Alphamaxx	774	6	Theatre D	y
GRI	Maquet	Alphamaxx	445	7	Theatre E	y
GRI	Maquet	Alphamaxx	464	7	Theatre G	y
GRI	Maquet	142501AO	37	?	Theatre H	
GRI	Maquet	1131-02B0	SN00530	2003	Theatre V2	y
GRI	Maquet	1133.12.B3	SN00466	?2006	TheatreU1	y
GRI	Maquet	1131-02B0	SN00530	2003	TheatreW3	y
GRI	Maquet	1131-02B0	SN00528	2000	TheatreX4	y
GRI	Maquet	1131-02B0	SN00527	2003	TheatreY5	y
GRI	Maquet	1131-02B0	SN00523	2003	TheatreZ6	y
GRI			NO TABLE ?		Theatre F	
IRH	Anetic Aid	21300	264	9	Day Surgery Unit	Exp 31/03/2014
IRH	Anetic Aid	21300	468	8	Day Surgery Unit	Exp 31/03/2015
IRH	Anetic Aid	21300	469	8	Day Surgery Unit	Exp 31/03/2016
IRH	Anetic Aid	21300	470	8	Day Surgery Unit	Exp 31/03/2017
IRH	Anetic Aid	21300	471	8	Day Surgery Unit	Exp 31/03/2018
IRH	Anetic Aid	21300	472	8	Day Surgery Unit	Exp 31/03/2019
IRH	Anetic Aid	21110	9826	5	H Centre Ward	No
IRH	Anetic Aid	21110	9827	5	H Centre Ward	No
IRH	Anetic Aid	21110	9828	5	H Centre Ward	No
IRH	Anetic Aid	21110	9829	5	H Centre Ward	No

6.4 Theatre Table Template MASTER.xls

IRH	Anetic Aid	21110	5317	8	Theatres	Exp 31/03/2020
IRH	Anetic Aid	21110	5318	8	Theatres	Exp 31/03/2021
IRH	Anetic Aid	21110	5319	8	Theatres	Exp 31/03/2022
IRH	Anetic Aid	21110	5320	8	Theatres	Exp 31/03/2023
IRH	Anetic Aid	21110	5322	8	Theatres	Exp 31/03/2024
IRH	Anetic Aid	21110	6523	7	Theatres	Exp 31/03/2025
IRH	Anetic Aid	21110	6524	7	Theatres	Exp 31/03/2026
IRH	Anetic Aid	21110	11807	2	Theatres	Exp 31/03/2014
IRH	Anetic Aid	21110	11808	2	Theatres	Exp 31/03/2015
IRH	Anetic Aid	21110	11809	2	Theatres	Exp 31/03/2016
IRH	Anetic Aid	21110	11810	2	Theatres	Exp 31/03/2017
IRH	Anetic Aid	21110	9102	5	Theatres	Exp 31/03/2027
IRH	Anetic Aid	21110	9640	5	Theatres	Exp 31/03/2028
IRH	Anetic Aid	21110	9641	5	Theatres	Exp 31/03/2029
IRH	Anetic Aid	21110	9642	5	Theatres	Exp 31/03/2030
IRH	Anetic Aid	21110	9643	5	Theatres	Exp 31/03/2031
IRH	Anetic Aid	21110	9644	5	Theatres	Exp 31/03/2032
IRH	Anetic Aid	21110	5321	8	**Unknown**	No
IRH	Eschmann	Rx500	5049			01/04/2014 - 31/03/2015
IRH	Eschmann	Rx Standby Unit	POAB2L1080			01/04/2014 - 31/03/2015
IRH	Eschmann	T20 Operating Table	T2SA4E2278			01/04/2014 - 31/03/2015
IRH	Maquet	1131.01C		23		01/04/2014 - 31/03/2015
IRH	Maquet	Alphamaxx 1133.12B3		7		01/04/2014 - 31/03/2015
IRH	Maquet	Alphamaxx 1133.12B3		4		01/04/2014 - 31/03/2015
IRH	Maquet	Alphamaxx 1133.12B3				01/04/2014 - 31/03/2015
IRH	Maquet	Orthostar II 1425.01A		11		01/04/2014 - 31/03/2015
IRH	Maquet	Orthostar II 1425.01A		14		01/04/2014 - 31/03/2015
RAH	MAQUET	1150.01C1	1426	13	DS TH 1	Y
RAH	MAQUET	1150.01C1	1352	13	DS TH 2	Y
RAH	MAQUET	1150.01C1	1431	13	IP TH 1	Y
RAH	MAQUET	1150.01C1	1429	13	IP TH 2	Y
RAH	MAQUET	1150.01C1	1341	13	IP TH 3	Y
RAH	MAQUET	1150.01C1	1427	13	IP TH 4	Y
RAH	MAQUET	1150.01C1	1428	13	IP TH 5	Y
RAH	MAQUET	1150.01C1	1425	13	IP TH 9	Y
RAH	MAQUET	1150.02C0	6440	7	MATERNITY TH A	Y
RAH	SCHAERER	AXIS 500	2768	13	IP TH 6	Y
RAH	SCHAERER	AXIS 500	2751	13	IP TH 7	Y
RAH	SCHAERER	AXIS	2766	13	IP TH 8	Y
RAH	SCHAERER	AXIS 500	3982	2	SPARE IP TH	Y
RAH	MAQUET	1150.0161	1430	13	MATERNITY TH B	Y

6.4 Theatre Table Template MASTER.xls

RHSC	Maquet	1131.12B0	468	8	Endoscopy room	Y	
RHSC	Maquet	1132.01A3	705	15	T1	Y	
RHSC	Maquet	1133.12B1	508	7	T2	Y	
RHSC	Maquet	1132.01A3	669	15	T3	Y	
RHSC	Maquet	1133.12B1	509	7	T4	Y	
RHSC	Maquet	1150.01C0	473	16	T5	Y	
RHSC	Maquet	1150.10A0	1499	16	T5	Y	
RHSC	Maquet	1140.62C0	655	16	T5	Y	
RHSC	Maquet	1132.01A3	2088	12	T6	Y	
RHSC	Maquet	1133.12B1	1105	5	T7	Y	
SGH	Eschmann	T20-a	T2AC-6A-2608	6	General Theatre 2	Y	
SGH	Maquet	OrthoStar 1	00501	21	Central Store	Y	
SGH	Maquet	Betastar	01007	6	Central Store	Y	
SGH	Maquet	Alphamax 1131.12BA	00427	7	General Theatre 1	Y	
SGH	Maquet	Betastar	009120	21	Gynaecology	Y	SPARE
SGH	Maquet	Alphamax	049356	10	Gynaecology Thearte 2	Y	
SGH	Maquet	Alphamax	049268	10	Gynaecology Thearte 3	Y	
SGH	Maquet	OrthoStar 1425.0.1A.0	00626	10	Ortho 1	Y	
SGH	Maquet	Heidelberg	00458	17	Ortho 2	Y	
SGH	Maquet	Beatastar	0280	21	Ortho 3	Y	
SGH	Maquet	Alphamax 1131.12BA	01353	10+	Urology Theatre 1	Y	
SGH	Maquet	Alphamax 1131.12BA	00406	10+	Urology Theatre 2	Y	
SGH	Schaerer	Axis 400	2878	15	Urology	Y	SPARE
Stob ACH	Eschmann	RX 503	5385	14+	theatre 6	N	
Stob ACH	Eschmann	RX500	5276	14+		N	
VIC	MAQUET	1425.01	587	7	T1	Y	
VIC	MAQUET	1425.01	630	7	T2	Y	
VIC	MAQUET	1133.12B3	426	7	T3	Y	
VIC	MAQUET	1131.12BO	1009	7	T4	Y	
VIC	MAQUET	1133.12B3	467	7	T8	Y	
Vic ACH	Eschmann	MR	1036	16	theatre 5	Y	
Vic ACH	Maquet	1131.01.C	312	22	theatre 1	Y	
Vic ACH	Maquet	1131.12BO	1006	7	theatre 2	Y	
Vic ACH	Maquet	1131.12B3	1149	5	theatre 3	Y	
Vic ACH	Maquet	1133.12B3	1221	5	theatre 6	Y	
Vic ACH	Maquet	1133.12B3	1150	5	theatre 7	Y	
Vic ACH	Schaerer	Axis 400	2876	12	theatre 4	Y	
WIG	ALM	ALM150KG			TH2	y NOT FIT FOR PURPOSE	
WIG	ESCHMANN	T202311001-T205	T2SA-4C-2212	> 10 yrs	GENERAL THEATRE	y	
WIG	Eschmann	T20/T25A-4C-2214	T202311001-T205	8 yrs	Th 1	y	
WIG	MAQUET	BETASTAR	NA	r bariatric use)	CORRIDOR	y	
WIG	MAQUET	1133.02BO	165	> 15 yrs	ORTHO THEATRE	y	
WIG	MAQUET	1420.0IA	16	17 yrs	ORTHO THEATRE	y	
WIG	MAQUET	ALPHAMAXX	430	7	TH 3	y	
WIG	MAQUET	ALPHAMAXX	429	7	TH 4	y	

Air sampling policy – NHSGGC

Background

The function of operating theatre ventilation is to prevent airborne contaminants from entering surgical wounds. Under normal circumstances the main source of airborne microbial contaminants is microscopic skin fragments given off by staff in theatre. A proportion of these skin fragments will be contaminated with micro-colonies of bacteria resident, or perhaps transiently present, on that individual's skin. Overall dispersion is increased with movement and the number of individuals present.

Other sources or airborne micro-organisms include improperly filtered outdoor air, contaminated fabrics worn by staff and backtracking of less clean air from outside the theatre. These sources are less significant. In addition there is a possibility that power tools used in certain procedures can create an aerosol from the tissues containing any micro-organisms within them.

Airborne micro-organisms can enter surgical wounds by one of two routes; they can either fall directly into wounds or they can land on exposed instruments and possibly surgeon's hands and then later be transferred into the wound.

Dilution of airborne contaminants is ensured by a well functioning ventilation system.

When to air sample a theatre

There is sufficient evidence to support the undertaking of microbiological air sampling;

1) As part of the commissioning of an operating theatre
2) After any major structural refurbishment including alterations to the fabric of the theatre or changes to the ductwork distribution that may affect airflow to or within the theatre suite. (Minor changes to ductwork may not necessitate sampling – discuss with Infection Control)
3) As deemed necessary by the Infection Control e.g. as part of an outbreak investigation.

Specialist microbiological advice must be sought prior to undertaking air sampling in an operating theatre due to the large number of factors that can affect results.

Provided that engineering parameters are satisfactory and regularly monitored microbiological air sampling in conventionally – ventilated theatres need not be done on a routine basis.

Note that there is no requirement for theatres undergoing yearly validation to be sampled unless this exercise leads to alterations of the theatre fabric or ductwork.

Air sampling should be undertaken after all of the following conditions have been met;

1) All new or refurbishment work has been complete
2) All engineering commissioning procedures have been completed
3) The ventilation system has been running continuously for 24 hours following completion of structural work
4) Ducting and air diffuser plates have been cleaned.

During normal working hours please contact Infection Control Teams for advice. Out of hours a Consultant Microbiologist is available via switchboard.

Procedure for sampling

Conventional theatres

The theatre should have an in-depth clean and be thoroughly clean and dust-free at least one hour before sampling.

It is crucial that no-one enters the theatre in the one hour prior to air sampling

The air handling unit should have been operating at normal flow rates continuously for at least 24 hours before sampling in a new theatre and for one hour in an existing theatre.

It is vital that the checks on engineering aspects should have already occurred and be satisfactory before microbiological sampling is done

The air sampler should be cleaned before use

It should be run briefly before the agar plate is loaded to blow any contamination out of the sampler

An air sampler mounted in the centre of the room approximately 1m above floor level should then be activated remotely to sample $1m^3$ (1000L) of air 15 minutes later.

It is recommended that two samples should be taken per theatre.

Aerobic cultures on non- selective media should not exceed 10 bacterial and/or fungal colony forming units per cubic metre (CFU/m^3)

Results of sampling may take 48 hours to 5 days to become available .However depending on the scenario infection control/estates may give clearance to use the theatre prior to this point. If the theatre is part of an outbreak investigation it is likely it will remain closed pending sample results.

Records should be stored by estates and the Infection Control Doctor

Ultraclean theatres

Ultra-clean theatres should be commissioned annually and on HEPA filter replacement or disturbance.

In ultra clean theatres particle penetration and velocity testing are considered superior tests of filter integrity/function than microbiological testing and are therefore deemed the tests of choice.

Air sampling should only be taken following discussion with microbiology/ infection control.

The air should contain less than 0.5CFUm^3.

Accurate sampling for such low levels of contamination requires operator skill.

There is no need for the operator to be outside the operating theatre but they need to be outwith the unidirectional flow canopy.

The ventilation should have been operating at full supply rate for at least 5 minutes before sampling occurs

Problems and actions

Clusters of infection known or suspected

Do a full check on the ventilation ; filters in air handling unit, ventilation rates, airflows in theatre and prep room, airflows between rooms
Microbiological sampling in empty theatre (ensure air handler has been fully functional for one hour and that sampling is remote)

Microbiological tests fail

The most common reason for test failure is people contaminating the space or failure to sample remotely. Staff should not be permitted into theatre in the one hour prior to testing.

Possible reasons;
Insufficient air volume
Check no water pooling in air handling unit or duct work
Incorrect airflow patterns between rooms
Air flow pattern in working area poor
Filters incorrectly fitted
Filters dirty
Wrong filters fitted
Temperature gradient too large across doorways from clean to dirty areas causing reverse flow
Debris in ductwork and air handling unit
Incorrect interlocking of supply and extract fans

Sampling of high-risk areas for Aspergillus/other filamentous fungi

It is generally recommended that environmental surveillance is performed for Aspergillus in high risk areas. Within NHS GGC these areas have been identified as the Bone Marrow Transplant Unit and level 4 of the Beatson Oncology Centre, the Western Infirmary ICU and Yorkhill's Bone Marrow Transplant Unit. There is however no consensus on how frequently screening should be undertaken. It is recommended that it is performed monthly by the microbiology department at GRI and the results copied to the Infection Control Doctor and Estates. (Please refer to GGC policy for Aspergillus testing)

References

1) Microbiological commissioning and monitoring of operating theatre suites. Hospital Infection Society 2004

2) Fournel I et al. Airborne Aspergillus contamination during hospital construction works: efficacy of protective measures. American Journal of Infection Control. Nov 16 epub.

Dr Teresa Inkster, Infection Control Doctor
December 2009

From: Forsyth, Ewen
To: Powrie, Ian
Cc: Anderson Lesley (NATIONAL SERVICES SCOTLAND)
Subject: FW: NHS GG&C meeting with PCF E&F Category team Monday 9 June 2014
Date: 11 June 2014 10:23:49

Ian

Please see the email below, which relates to our catch up tomorrow.

Kind regards

Ewen Forsyth BA MCIPS
Commodity Manager
NHS Greater Glasgow and Clyde
[redacted]
nhsggc.org.uk/procurement

Procurement Department
3rd Floor, Walton Building Annexe
Glasgow Royal Infirmary
84 Castle Street
GLASGOW, G4 0SF

From: Anderson Lesley (NATIONAL SERVICES SCOTLAND) [redacted]
Sent: 10 June 2014 09:13
To: Beattie, Gordon; Beattie, Gordon; Forsyth, Ewen; McIntyre, Hazel; Misumi, Wasonga; Cockram, Sarah
Cc: Taggart David (NATIONAL SERVICES SCOTLAND); Bainbridge Bronwyn (NATIONAL SERVICES SCOTLAND); Anderson Lesley (NATIONAL SERVICES SCOTLAND)
Subject: FW: NHS GG&C meeting with PCF E&F Category team Monday 9 June 2014

Good Morning all: Notes from Bronwyn regarding yesterday's meeting.

Thank you for taking the time to meet with David Taggart and me yesterday at the Southern General. I made a few notes and these are represented below. Please advise if they do not conform with your notes/recollections.

Tracking

1. NP812/13 CEF: no actions.
2. NP802/12 Fire and security systems maintenance: will be reviewed as part of a priority list.
3. NP811/13 Lift Maintenance: evaluation of the mini-comp is underway.
4. NP804/11 Electrical and plumbing materials: uptake is currently low. The intention is to undertake a mini-comp after some usage figures have been gathered. GG &C to ensure that users are accessing the catalogue.
5. NP818/13 Electrical Goods: GG&C has agreed a basket of goods with EEL to ensure quick delivery.
6. NP815/13 Catering Equipment Maintenance: GG&C has an agreement with Burlodge; other catering equipment maintenance is not required as majority of catering equipment is still under warranty at central kitchens. James Warnock is reviewing spend across other WoS HBs.
7. NP810/12 Packaged Biomass: has more potential in smaller HBs but anecdotally Estates has installed some packaged biomass.
8. NP806/12 Fire Fighting Equipment maintenance: mini-ITT has been issued.
9. NP816/13 Maintenance of Refrigeration Equipment: BB to contact Nick Cleary to discuss further.
10. NP826.13 Non-domestic refrigeration equipment: no comments.
11. NP710/13 Heating oils: NP will monitor usage and report delivered saving in Nov 14.
12. NP813/13 Authorising Engineers: Framework is available if AEs are needed.

New scoping areas:
1. Regulatory Inspections;
2. Water treatment chemicals;
3. Ventilation systems maintenance.

Services contracts for SG
EF to feed back to BB after meeting with Ian Powrie.

Term trades
- There is a general agreement to keep open communications regards any trades contracts undertaken by EF and team and by BB for other HBs.
- Flooring was discussed and DT is willing to approach HFS about specifications once GG&C has reached the point of undertaking the procurement of flooring across the HB.

Medium Construction Projects (formerly Minor Works)

- There was an overview discussion of what is now called Medium Construction Projects.
- Concerns were raised regarding capacity across GG&C
- BB to provide Hazel with a contact at Constructionline.
- Hazel will feed back to DT regarding a meeting with the Capital Projects team.

Regards
Bronwyn

Lesley Anderson
Commodity Specialist
Strategic Sourcing
Procurement, Commissioning and Facilities

NHS National Services Scotland
National Distribution Centre
Canderside Toll
2 Swinhill Avenue
Larkhall
ML9 2QX

[redacted]

From:	Hirst, Allyson
To:	McSweeney, Karen; Carnie, Frank; Connelly, Karen; Craig, Carol; David Hall; Forsyth, Graham; Frew, Shiona; Gallacher, Stephen; Forsyth, Graham; Greig, Mark; Griffin, Heather; Hirst, Allyson; Loudon, David; Macleod, Mairi; McAllister, Mark; McCluskey, Fiona; McColl, Eleanor; McDerment, Hugh; McGarrity, John; Moir, Peter; Powrie, Ian; Smith, Alastair; Stewart, Robert; Wrath, Frances
Subject:	Project Team - Papers for Meeting on 13th June 2014 at 11am
Date:	13 June 2014 08:30:45
Attachments:	Telecoms Report 130614.pdf AGENDA 13th June 2014.pdf Notes of Meeting of 6th June 2014.pdf Project Risk Register v2 - May 2014.pdf Project Update Meeting 13 June 2014.pdf

Dear All

Attached are papers for discussion at today's project team meeting.

Apologies beforehand would be appreciated

Thanks

Allyson Hirst
PA to the Project Director
New South Glasgow Hospital Development
Construction Offices
Hardgate Road
Govan
G51 4SX

[redacted]

New South Glasgow Hospitals Project

Telecoms Report – 13th June 2014

BT Voice Contract:

BTGS Project Kick Off

From the initial meeting the following dates have been agreed;

> BTGS & Teleccoms equipment review took place 10th June to enable BT GHS to raise the orders. BTGS will conclude this by 30th June

> BTGS NHS Scotland Client Director and BT UK Delivery Director meeting with David Louden and Karen McSweeney took place 12th June

> Unified Comms review is planned for 17th June with BTGS, Telecoms and IT.

> BTGS and Brookfield inductions session planned for 26th June

Unified Comms

An evaluation of the three providers of Unified Comms, Cisco Jabber, Avaya Flare and Microsoft Link will take place at the meeting planned for 17th June. Outcome of this meeting will be to review the three products and identify user groups to undertake proof of concept trials to assist in the decision making process and ensure we procure the correct solution of the wider organisation.
At this session timescales will be agreed for the trial and a decision is required no later than end October to ensure procurement, delivery and configuration.

New South Glasgow Hospitals and Laboratory Project
Project Team Meeting
13th June 2014 11am – 12 Noon
Project Offices – Boardroom

Agenda

1.	Apologies	
2.	Notes from previous meeting	
3.	Matters Arising	
4.	Adult and Children's Hospitals Progress Update	HG/MM
	- General Progress - Programme	
5.	Equipment Procurement	RS/FW
	- Equipment Groups 1,2,3 & 4 - Group 5 Equipment and OJEU Completion	
6.	Migration	
	- Clinical Migration	MM/HG/
7.	IT Update	
	- Weekly Update - Risks and Issues - Programme	
8.	Telecoms	KMcS
9.	CP3 Update	HMcD
10.	Campus Logistics	PM
11.	Teaching & Learning/CRF/Office	GF
12.	Estates Update	IP
13.	AOCB	
	Risk Register Review for OtM	DL
14.	Date and Time of Next Meeting	

20th June 2014 at 11am – Board Room, Project Office

PROJECT TEAM MEETING: 6th June 2014
ACTION NOTE

Present:	Mairi Macleod (MM)	David Loudon (DL)	Hugh McDerment (HMc)	Frank Carnie (FC)
Mark Greig (MG)	Frances Wrath (FW)	Graham Forsyth (GF)	Ian Powrie (IP)	John McGarrity (JM)
Apologies:	Fiona McCluskey (FM)	David Hall (DH)	Peter Moir (PM)	Eleanor McColl (EM)
Stephen Gallagher (SG)	Mark McAllister (MMc)	Karen Connelly (KC)	Robert Stewart (RS)	Alastair Smith (AS)
Heather Griffin (HG)				

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Previous meeting	Accepted as an accurate record	-	-
2.	Matters Arising	There were no matters arising that were not to be covered under the agenda. A promotional video made by BMCL on Community Engagement was shown to the team as a reminder of the achievements that the project has made for the local community	-	-
3.	Adult and Children's		-	-
	A&C	MM reported that zone checks are continuing but unfortunately rooms are not as advanced or as clean as in previous checks. Wayfinding continues with production group 1 completed and now reviewing areas not previously ready for checking Staff visits proving very positive with the latest visit by staff side reps receiving good feedback.	-	-
	General	DL reported that programme and progress going well along with commissioning being closely monitored.	-	-
4.	Equipment	RS was unable to attend the meeting but had submitted a report which was noted. FW updated that Group 1 – concluding changes around groups 2 & 3 with small details ie padded walls and medi rails to be completed with PMI ready for signature and RS ready to purchase. Patient Information Kiosks and Screens – weights, sizes and data and power requirements to be clarified to BMCL to allow progress- Information has been forwarded from IT to HG – FW asked for the details to be forwarded to herself. MM commented that she was not aware of the plans for the NCH MG agreed to clarify the current status. IT colleagues noted that kiosks will run from network and screen will run via data. Group 5 – programme is currently with WMiller with details being clarified later today. DR room site survey undertaken on 17th and 18th June to allow finalisation of drawing. Dates awaited from other suppliers. BML have informed that end of June will see this area completed Decontamination – agreed to bring relevant staff to review requirements this coming Thursday and FW agreed to update the team at the next meeting Monitoring – JMcG noted that monitoring supply companies plan to visit site to review areas – JMcG asked if this was ok to have during working week – JMcG to check with site manager of the area in question beforehand	-	-
5.	Migration	Workbooks – outstanding areas being chased by e-mail and then direct calls to the STO. C&B preparing workbooks for upload. Bed model information is required in order to programme the timing between each hospital move DL noted that DStewart is to chair the logistical sub-group and project team involvement will be required.	-	-
6.	IT	IT update was distributed with the papers for the meeting. FC gave a brief update on :- switches on programme but will be in a lull now until fibre catches up, 400 3G compatible wi-fi installed and survey completed, AGV configuration completed, LAN controller – progress, bids in place for work associated with the project, training on self-service kiosks carried out and will go live next week, ITT for teaching and learning hardware is complete – AV will be carried out separately, Gap analysis complete for areas known and completion of the bed model will allow further areas to be reviewed and completed.	-	-
	Telecommunication	KMcS will attend the meeting each week to hear progress in other areas and report on the telecommunication project. KMcS submitted a written update which was circulated to the group and noted. BT order has now been signed and returned to BT, unified comms options		

		being reviewed with a September deadline, arrangements to be made for BT to complete a site visit to complete a survey. KMcS was asked to note completion dates within the written report for future submissions		
7.	CP3	HMcD reported that Hypostyle are looking at Option 3 with completion of design in a few weeks in order to submit for approval. A full traffic analysis to be carried out to ensure that flow of traffic is workable in the area. A lift analysis was carried out and it may be necessary to have 1 additional lift installed. HMcD wished to carry out a full procurement review, approach and programme and also CIG approval	-	-
8.	Campus Logistics	Decommissioning and Demolition meeting scheduled for next week Contractor logistics – TC removal programme for next week assuming weather holds out	-	-
9.	Teaching and Learning/Offices	T&L – progressing to programme, cladding and block work progressing AV specification signed off, working with IT to pull together requirements, signage and ironmongery decisions progressing, key suiting discussions. Topping out planned for 24th July and invitation list being pulled together Office — project is on budget and programme. MAK is progressing mock up for everyone to experience and to allow feedback. QMH had space to accommodate and GF will progress. BREEAM aspiring to excellent but reaching very good at this time CRF now operational		-
	Other Capital Projects	Additional projects have been approved for progressing on the SGH site including – Ward 66 and 66A, ward 62, the round house, University Corridor refurbishment, maternity ground floor refurbishment. Additional staff will be brought on to carry forward these projects from the Capital Team at Gartnavel. PMI issued for main entrance at INS – and aesthetic changes to link bridge from hospital. Overcladding of the neuro building also under planning at this time HMcD raised the issue of route of the district main before works are carried out to complete the hard and soft landscaping – DL and GF agreed to review route and programme		-
10.	Estates	SEPA - response to oil and fuel management due to be returned to SEPA by 9th June – A further meeting with SEPA will take place to ensure that response is appropriate before submission for permit at the end of July. Horne – HPS,HFS, Horne and NHS met to allow Horne to present their thoughts – HPS/HFS not in agreement and believed that devices were at risk but agreed that guidance cannot be implemented retrospectively and agreed that the taps can remain Laboratory – LV generators now connected HV realigned to separate retained estate, labs and NSGH	-	
11.	AOCB	Atos Ambassador - Steve Cram will be visiting the site on 10th July 2014 at 2.30		
12	Date and Time of Next meeting The next meeting of the Project Team will take place on Friday, 13th June 2014 at 11am.		For noting	All

NHS Greater Glasgow and Clyde

Project Risk Register

Completed by New South Glasgow Hospitals Project Team

Date Reviewed by Joint Project Team 16th May 2014

Date to be reviewed by the On The Move Programme Board 22nd May 2014

Date to be reviewed by ASSB Jul-14

Date to be reviewed by Joint Project Team 13th June 2014

LEGEND (RISK OWNERSHIP)
DL - David Loudon
HG - Heather Griffin
HMcD - Hugh McDerment
MM - Mairi Macleod
MMc - Mark McAllister
PM - Peter Moir
KC-Karen Connelly
DH - David Hall
DR - Douglas Ross
EM - Eleanor McColl

Risk = the chance of something happening which will cause harm
Levels of risk = assessed in terms of likelihood and consequence (LxC)

Likelihood (L)	Consequence (C)		Risk Ranking Priority	
5	Extreme	5	20 - 25	= Priority 1 - **VERY HIGH**
4	Major	4	12 - 19	= Priority 2 - **HIGH**
3	Moderate	3	6 - 11	= Priority 3 - **MEDIUM**
2	Minor	2	1 - 5	= Priority 4 - **LOW**
1	Negligible	1		

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
1	Appropriate Design Quality not being Achieved. (Building and Services)	Detailed Employer's requirements set out Quality Standards. A&DS supporting project with enabler input. Evaluation criteria has quality as a key element and priority. Design Action considered in specifications BREEAM Consultant Input to Planning process Project Supervisor contracted from 1st June 2010 (Capita) Project Supervisors quality checking construction and engineering	1	5	**5**		Design checks on appendix K agreed for FBC approval Supervisors on site from June 2010 - Monthly reporting Ongoing monitoring RDD process will continue to be maintained. 2 Stage review process - 1st stage review undertaken in July 2010. 1:200 review concluded minimum scope change 1:50 process finalised - minimum scope change Project Team involved in product workshops to input services/finishes selection 1:50 "sweep-up" exercise concluded Project Team zone inspections underway to ensure design requirements met	PM
2	HOSPITALS - Capital costs out with affordable level	Formal change control process in place to control scope change Review contingency at ASSB Review at Commercial Group meeting	1	5	**5**		Ongoing monitoring. Regular reporting to the Exec Group Final stage of 1:50 process in place. 98% of contract let Hospitals outturn cost forecasted within budget. Continually review and report on contingency Ongoing assessment of risks through Early Warning meeting with Brookfield. Phase 3A demolition and ground works	DL
3	Lack of adequate resources and skills for next stage of the project (Stages 2&3) are in place and for commissioning	Realign project team and technical team to meet new project challenge. Review and change technical advisor input. Identified requirement to commission quality regime for construction phases of the project (supervisors) Restructured Project team and allocated responsibilities	2	2	**4**		Obtained support from Procurement and Medical Physics, IT and Pharmacy Continuous Review Assign each team member with special responsibilities. Out sourcing specialist staff for testing and commissioning	DL

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
4	Major Hospitals works starting on site from March 2011 and potential risk to current site operation	Construction Interface Group established to manage, control and monitor all activities and liaise with Contractor, SGH Facilities and SGH Estates Depts. Group undertakes a weekly "look-ahead" of programme to identify any potential disruption. Site and/or specific department notified in advance of any potential disruption. Other site projects also members of this group Complaints Register instigated to log any complaints and actions taken Ongoing liaison with local residents during link bridge install and VIE construction	2	3	**6**		Continuous monitoring and evaluation of processes and outcomes by Project Team and PMG Ground scanned for services check Users involved where there is potential for the works to impact on their services Ground scan for services check repeated (March 2012). Prior to any works continuing to liaise with Directorate Lead Current focus is on the link bridge installations and associated works	DL
5	Appropriate communications not being provided to all stakeholders	Since Ministerial announcement with role out communication plan to all stakeholders Communications Plan in force Strategy provided by OTM Comms Group	3	4	**12**		Project team continue to review communications Boards website updated monthly with webcam images A project web-portal has been set-up Project Community Engagement Manager working closely with BCL to take forward joint communications Community Engagement events for local residents commenced formally 19th July 2010. Presentation to South Glasgow Area committees x 6 ASR Communications Group established Neighbourhood Liaison Group established	MM/Project Team
6	Detrimental environmental impacts i.e. Noise disruption and pollution	All works to be assessed for noise disruption and/or pollution consequences Ecology report undertaken Contractors environmental policy implemented WRAP initiative implemented . Brookfield monitor vibration and noise automatically. Disruption to local residents during VIE construction, removal of tower cranes. Continue local liaison with residents	4	3	**12**		Ongoing review by PMG Regular meetings with local residents to discuss a series of environmental issues pre construction of the hospitals BCL WRAP on site Dust monitors installed around BMCL site to gather information - weekly report provided to NHS Team Dust screens erected in specific locations Acoustic barriers erected to minimise potential noise disruption Project Director reinforced that Brookfield must comply with GCC conditions. PPC application made and under review and project team in consultations with SEPA	PM
7	Inadequate LAN Infrastructure costs allowed for in Project	There is a risk that there is insufficient budget allocated for LAN Infrastructure costs in Project budget. This could result in their being insufficient available budget to cover any LAN design changes that need to be made.	1	4	**4**		Contractor appointed to install LAN and switches. IT active equipment install programme commenced October 2013 and implementation plan has been developed in line with BMCL commissioning plan. As at May 2014 installation of LAN switches is 85% complete. The Board will continue to liaise with BMCL to ensure that any port increase is captured	EM
8	Failure to meet requirements of fire guidance documents - programme impact (design process)	Fire strategy developed in conjunction with NHS personnel including Fire Officer Progress monitored at Project Management Group and Project Team Regular specific fire meetings scheduled with Project Team and Users. All information sent to building control. Only cause and effect matrix to be concluded	1	3	**3**		Building Warrant application submitted to GCC Building Control Dept Workshops arranged to discuss fire strategy with Architects, Project Team, Technical Advisers, Contractor and Strathclyde Fire & Rescue Ongoing discussions TA Fire Advisers prepared report for submission to Building Control - indicating BCL design fully compliant with Fire Regulations Recent guidance released setting out new compliance standards for the prevention of fire in the atria of healthcare buildings. NHS Project Team and designers determining whether any changes to the design is required. Ongoing liaison with GCC Building warrant for Stage 8 (Fire Strategy) now received by BMCL Project Team met with HFS who are satisfied the atrium design meets new regulations. Building Warrant now concluded	DH

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
9	Data share with Contractor not adequate	Process in place (Aconex) to ensure contractor correspondence widely circulated and requests actioned	2	2	**4**		Standing agenda item for weekly project team Further aconex training provided to project team members Request For Information (RFI) tracker developed and being actively managed to ensure responses provided to contractor within appropriate timescales. RFI tracker is standing agenda item on site progress and design groups.	DL
10	A&C - Group 2,3,4 & 5 Equipment Non-compliance of group 5 equipment with BMCL Construction programme	Project Team have agreed a methodology to respond to BMCL plan/construction programme. Resource to assist maintaining the programme being provided to the project Team from Medical Physics (Secondment) Cost estimate prepared and reviewed for each equipment category. Tenders issues and returned. Tender assessment process is underway	1	4	**4**		Project Team receives regular progress updates from Equipment Group lead to ensure no impact on programme. Work underway to identify 'new' versus 'transfer' equipment Full detailed equipment installation process being developed Regular meetings between BMCL and NHS to discuss and agree way forward re group 5 equipment install in those areas to be completed first. Deliveries of Group 2 (Board supply) equipment to BMCL ongoing and methodology for the delivery and storage of Group 2 equipment to/by BMCL concluded. Group 3 & 4 - Project team meeting users to start process of determining old versus new Group 5 - detail plan agreed to procure and install equipment - still to agree purchase/transfer	RS
11	Specialist Departments Failure to identify early those reps who need to be involved in the final sign-off of specialist departments i.e. external validators, external testers, etc	Project Team have identified a list of departments that will require specialist input to the design/sign-off process.	2	5	**10**		Project Team to liaise with the leads of the specialist departments to seek details of validators/testers that will be required for final sign-off of a room/area/dept. BMCL are organising to present their proposals to commission the hospitals to the NHS Team. Final system commissioning programme required from BMCL to allow planning of the test and commissioning of systems. Information required by April/May 2014 to progress within timelines, programme from BMCL awaited.	PM
12	Construction Quality requirement not being achieved	Capita Symonds appointed independent testers. Additional NHS support/resource provided on project (July 2012)	2	3	**6**		Provide regular reports on all aspects of construction activities. Provide weekly quality report to Project Team Both reports discussed at monthly meetings and information shared with contractor. Daily site visits undertaken by NHS Reps to monitor works on the site. NHS Reps linking with Capita to raise any concerns in order that formal communications are provided to BMCL. Exemplar areas have been signed off which sets the precedent going forward for the rest of the building. Zone inspections underway by Project Team to ensure that quality requirements are met.	PM
13	The detrimental effect of any of the demolitions works -post 2015- on the hepa filtered wards in both the adult and children's hospitals	Distance from air intake point. Environmental control covered within contract Involvement of Decommissioning Group (Capital Planning) from May 2014	3	3	**9**		Discussions to be instigated with BMCL Dustscan in place to monitor dust levels. Dust suppression system used onsite Understanding dust filter implications. Risk assess this aspect as part of demolition contract, may require additional filters.	PM

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
14	PPC Permits - Change to legislation Requirement to obtain permit to operate large scale combustion plant for purposes of commissioning. Not obtaining permit will delay BMCL commissioning	NHS GG&C are designated operators of the proposed energy centre & existing retained estate combustion plant and are therefore responsible to for the submission of permit application. Permit application was duly submitted on 3rd March 2014.	3	5	**15**		SEPA 5 month review process anticipated, (July commissioning programme). Post Public consultation notice (March 2014) . Installation of drainage oil seperator at EC fuel transfer station Production of management operating procedures in preparation for 1st audit under permit.	IP
15	Inadequate Commissioning of Buildings	Commissioning Plan and Completion Criteria. NHS Resource Plan Focussed meetings with BMCL	2	4	**8**		Completion criteria to be circulated to the group.Breaking down by areas would be useful to take forward	PM
16	Building Control - Delayed Statutory approval	Project programme Project meetings with BMCL	2	4	**8**		Completion criteria to be circulated to the group. Acoustic testing being planned. Temporary occupancy certification will be issued until Stage 3 completed. Temporary partitions may require to be set up in retails spaces to satisfy fire regulations	PM
17	Non-compliance of completion criteria by BMCL	Meetings to be arranged. Criteria to be circulated	3	4	**12**		Completion criteria to be circulated to the group. Continue to monitor progress	PM
18	Helipad flight acceptance test not being granted	Method statement from BMCL	2	2	**4**		Alternative landing and transport in place, Contact with relevant external - including SAS/GCC/Military/Private Sector suppliers to be involved	PM
19	Unable to recruit and train staff to manage the helipad for test flight after commissioning	Discussions underway with relevant NHS colleagues to plan and prepare	3	5	**15**		Meeting arranged with BMCL and Helicopter Advisor to confirm requirements. Training provider identified at Glasgow Airport. Job Description and person spec in development	DL
20	Specialist Witness Testing - lack of availability of appropriate resources	Make arrangements with relevant specialist staff groups to prepare for work load	3	4	**12**		Commissioning programme required from BMCL to prepare and plan for this part of the process	PM

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
21	Non-completion by 26th January 2015 - impact on migration, procurement	Monthly monitoring and weekly walkthrough to monitor situation	3	4	**12**		Continue regular monitoring	DL
22	Compression of commissioning programme	Existing commissioning programmes are in place for plant rooms and energy centre	2	4	**8**		Requested issue of commissioning programme on a quarterly basis. October/Jan/April and July to keep under review	PM/DH
23	Financial/Commercial - impact of failure to budget appropriately for remaining packages	Monitor on a regular basis procurement and financials of BMCL	1	2	**2**		Regular monitoring of the financial spending of the contractor	DR
24	Sub-contractor liquidated/cease to trade	Financial checks continue to be carried out - guarantee bonds in place and warranties in place via BMCL	1	3	**3**		Continue to check financials on a regular basis	DR
25	Non-completion of project - £1/4M per week costs to BMCL, impact on migration, procurement, commissioning and Board being unable to clear areas of the campus scheduled for demolition to complete stage 3 works	Continual monitoring of programmes, work on site and financial status of main contractor and their sub-contractors	2	5	**10**		Include this issues within programme risk and continue liaison with BMCL	DL/PM/DH
26	Cashflow - possible issues for 2014/2015	Project Director working with Finance colleagues to ensure funds are allocated appropriately throughout the contract	2	5	**10**		Review of cashflow predictions with AMcCubbin	DL
27	Staff - lack of familiarisation with new areas Lack of familiarisation with new technologies Inadequate plan with FM colleagues to take forward best ways of familiarising buildings and campus	Induction & Orientation Group to review ways of providing familiarisation with focus on relevant areas initially. Authorised persons for HV, Medical Gases etc to be incorporated in training Additional costs for additional training - contractually BMCL will provide commissioning training but clarity on what this incorporates and level of training provided. Board requires clear understanding in order to develop plans Staff tours of new hospitals underway	2	5	**10**		Project Manager to liaise with colleagues in Learning & Education and FM on the best way forward - target to complete discussion by end of 2014 Familiarisation sessions wth Estates Dept reps ongoing covering all apsects of the electrical and mechanical systems installed.	MMcA/MM/HG/KC

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
28	Loss of Key Resources (NHS)	Sharing of knowledge, roles and responsibilities	2	3	**6**		Buddy up staff to lessen impact	DL
29	Loss of Key Resources (BMCL) - key staff moving onto new contracts	BMCL to confirm	4	3	**12**		Check BMCL position in relation to staff retention until job is completed	DL
30	Lack of early communication with external stakeholders	Split responsibility with project team and other NHS colleagues Ongoing meetings with SAS/GCC/Police	3	4	**12**		Police, SAS, GCC, Community Engagement and Board level discussions along with tours for staff, familiarisation, equipment training, video training. Supplier training built into procurement tenders	MMcA/MM/HG
31	On the Move Risks	Any further changes to national services will impact on migration planning. Colleagues informed of financial implication of any changes to programme at this stage	2	4	**8**		Continue liaison with stakeholders to ensure this message is understood	DL
32	Access to new hospitals - transport/car parking, Section 75 not being fully implemented. GCC not completing Fastlink to ensure use for hospitals opening, costs being too high to make public transport attractive or timing being inappropriate for shifts and appointments. Under provision of car parking a concern, inappropriate signage and directions	Work with colleagues at GGC to ensure that planning of Fastlink is progressed within timeframe. Working with transport providers to ensure that transport is appropriate for requirements. Project team progressing and planning the car parking provision and understanding pinch points of the project	2	3	**6**		Community Engagement working with GCC, car parking policy being implemented and community engagement sub-group to take forward ideas for communication with users and staff. Noted reputation of Board at risk if not fully thought through	MMcA
33	Demolition planning - non compliance and service disruption	Policies adhered to and understood	2	4	**8**		Preventative - comply with Board policy. Training support for responsible staff	HMcD
34	Over development of SGH - concurrent activities, disruption to hospital project delivery. Lack of co-ordination of works	Programme, management and methodology	4	4	**16**		Additional PM support. Appropriate procurement plans	DL

New South Glasgow Hospitals Project

Project Team Meeting – Friday 13 June 2014

Equipment Update

Group 1

Frances Wrath will provide verbal update at meeting.

Group 2

Programme ongoing no reported issues. The current position is there have been 158 call offs received with 94 areas remaining for call off. (No change from 6 June Report)

Group 3

The Stakeholder engagement meetings are ongoing. The team have continued to upload the output from the meetings to the master BOQ. This process is working well and should when complete inform the tender processes for equipment required. To date 63% of information by line has been uploaded.

OJEU for AGV Carts –

Orders placed for:-
Lot 1 Catering Trolley Type 1,
Lot 2 Waste Carts both Clinical and General
Lot 3 Decontamination Trolley,
Lot 4 Linen Cages.

Lot 1 Catering Trolley Type 2 – Work remains ongoing to finalise the design and gain approval from Swisslog. The speed of Swisslog to respond is beginning to cause concern and this will be reflected in the risk register. The issue has also been raised with Brookfield.

Lot 4 Linen – The linen trolley on order requires to be amended to ensure that it will be compatible and work in conjunction with the conveyor system in the lab block. Same issues as noted above re communication with Swisslog.

The OJEU process for Bed Head Patient Entertainment System is continuing. 3 Suppliers, Parity, Lincor and Airwave demonstrated their equipment and provided responses to areas of the tender that were unclear. The financials need to be verified and standardised to determine preferred bidder. Currently several bids are clustered in range 80%-86%.

Removal Contract – The ITT documents are being prepared for release. A supplier engagement session for all 6 shortlisted suppliers is being arranged for 3 July. The purpose is to update suppliers on the project and the known scope of work and to issue formally the Invitation to Tender documents on the day.

Planning is started to commence the tender processes to secure the equipment to support the pre equipping strategy (350 Beds Adult Hospital, 100 Beds Childrens Hospital).

Group 5

Decontamination

The Invitation to Tender documents in respect of the Automated Endoscopic Reprocessors and Drying Cabinets was issued on Tuesday 3 June 2014. This activity remains on programme.

Clinical Migration Planning

Information now received from ECMS, S&A and RAD. Regional Services have not yet responded and have been chased for a response. The information received has allowed for an initial mapping of services to ward areas however the lack of detail from ECMS and no return from Regional is proving challenging.

Equipping Work Stream

The Equipping / Procurement group will next meet on 23rd June.

Capital Funding

The process of formally inviting bids for Equipment with a value in excess of £5K was issued on 16th May. All Directors and Clinical Directors received a request to submit a full and prioritised list of requirements by 25th July 2015.

Staff Resources

1 senior Buyer remains on sick leave. Student Placement will join the team on 1st July for one year.

From:	Gallacher, Alan
To:	Mills, Clare; Campbell, Carole; Carr, Michelle; Cassidy, Annette; Cheaitou, Janet; Cleaver, Don; Dawes, Heather; Dodd, Angela; Dorrian, Grace; Forsyth, Ailsa; Gilmore, John; Glass, Bill; Groom, Susan; Halliday, Seonaid; Hamilton, Kate; Hamilton, Pauline; Inkster, Teresa (NHSmail); Johnston, Elaine; Kane, Mary Anne; Loughran, Kate; MacKay, Elizabeth; Martin, Elaine; McEwan, Katie; McFadden, Jim; McGuigan, Mags; McIntyre, Hazel; McMullin, Linda; McNeil, Elaine; Menzies, John; Mills, Gareth; Nealis, Ron; Philp, Pamela; Powrie, Ian; Rankin, Linden; Russell, Steve; Shankland, Anne; Smith, Euan; Traquair Smith, Ann; Walker, Susan; Ward, Danielle; Whiteford, Ryan; Williams, Craig
Subject:	RE: TUMM Mtg 17/06/14
Date:	16 June 2014 12:24:33
Attachments:	AICCVaildation SpreadsheetOrigdesignParameters01062014.xls image001.jpg

All,

Theatre validation to 1/6/14.

Concerns as follows:

GRI - Theatres K&L
GGH - Beatson
RHSC - All except for Theatre 2
WI - Theatres L2A & L2B
SGH - All but Ortho1 & Gyn 2
Vic - Theatres 1&3

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

[redacted]

From: Mills, Clare
Sent: 10 June 2014 12:56
To: Campbell, Carole; Carr, Michelle; Cassidy, Annette; Cheaitou, Janet; Cleaver, Don; Dawes, Heather; Dodd, Angela; Dorrian, Grace; Forsyth, Ailsa; Gallacher, Alan; Gilmore, John; Glass, Bill; Groom, Susan; Halliday, Seonaid; Hamilton, Kate; Hamilton, Pauline; Inkster, Teresa (NHSmail); Johnston, Elaine; Kane, Mary Anne; Loughran, Kate; MacKay, Elizabeth; Martin, Elaine; McEwan,

Katie; McFadden, Jim; McGuigan, Mags; McIntyre, Hazel; McMullin, Linda; McNeil, Elaine; Menzies, John; Mills, Gareth; Nealis, Ron; Philp, Pamela; Powrie, Ian; Rankin, Linden; Russell, Steve; Shankland, Anne; Smith, Euan; Traquair Smith, Ann; Walker, Susan; Ward, Danielle; Whiteford, Ryan; Williams, Craig
Subject: TUMM Mtg 17/06/14

Hi

Please find attached papers for the next meeting on **17/06/14** at **9am** in **Conference Room 2.16B, Level 2, VACH.**

1. Agenda
2. Notes of previous mtg
3. Theatre Light Database
4. Theatre Table Database
5. Air Sampling Policy.

-
Apologies have been received from: Kate Hamilton.

Thanks.

Clare Mills
PA to CSMs for
Theatres and Anaesthetics (South and ACHs)
General Surgery (South)

NHSGG&C THEATRE VALIDATION DATA
OVERALL NHSGG&C POSITION
17-Jan-14

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
GRI	A	28/01/2014	18.4	20	15	92	28/01/2015	28/04/2015	
GRI	B	18/03/2014	20	20	15	100	18/03/2015	18/06/2015	
GRI	C	26/02/2014	23.29	20	15	116	26/02/2015	26/05/2015	
GRI	D	11/02/2014	18.8	20	15	94	11/02/2015	11/05/2015	
GRI	E	16/07/2013	22	20	15	110	16/07/2014	16/10/2014	
GRI	F	21/01/2014	24.4	20	15	122	21/01/2015	21/04/2015	
GRI	G	02/07/2013	16	12	9	133	02/07/2014	02/10/2014	Capital Requested
GRI	H	02/07/2013	15	11	8.25	136	02/07/2014	02/10/2014	Capital Requested
GRI	K	14/05/2013	9	11	8.25	82	14/05/2014	14/08/2014	Static pressure increased by 56% after Plenum Upgrade. Air flow increased as a result
GRI	L	14/05/2013	5.6	11	8.25	51	14/05/2014	14/08/2014	Static pressure increased by 56% after Plenum Upgrade. Air flow increased as a result
GRI	M (UCV)	16/10/2013	0.44	0.38	0.38	116	16/10/2014	16/01/2015	
GRI	N (UCV)	07/04/2014	0.4	0.38	0.38	105	07/04/2015	07/07/2015	
GRI	R (UCV)	05/12/2013	0.43	0.38	0.38	113	05/12/2014	05/03/2015	
GRI	S	12/11/2013	20	18	13.5	111	12/11/2014	12/02/2015	
GRI	U	13/08/2013	19	20	15	95	13/08/2014	13/11/2014	
GRI	V	30/07/2013	20	20	15	100	30/07/2014	30/10/2014	
GRI	W	05/12/2013	17	20	15	85	05/12/2014	05/03/2015	
GRI	X	04/02/2014	19	20	15	95	04/02/2015	04/05/2015	

GRI	Y	16/10/2013	16	20	15	80	16/10/2014	16/01/2015	
GRI	Z	06/08/2013	20	20	15	100	06/08/2014	06/11/2014	
GRI	1	13/08/2013	28	20	15	140	13/08/2014	13/11/2014	
GRI	2	23/07/2013	21	20	15	105	23/07/2014	23/10/2014	
GRI	3	23/10/2013	19	20	15	95	23/10/2014	23/01/2015	
GRI	4	23/07/2013	19	20	15	95	23/07/2014	23/10/2014	
GRI	5	18/10/2013	23	20	15	115	18/10/2014	18/01/2015	
GGH	A	18/10/2013	18	20	15	90	18/10/2014	18/01/2015	
GGH	B	04/10/2013	20	20	15	100	04/10/2014	04/01/2015	
GGH	C	26/10/2013	20	20	15	100	26/10/2014	26/01/2015	
GGH	D	02/11/2013	20	20	15	100	02/11/2014	02/02/2015	
GGH	D1	30/11/2013	21	20	15	105	30/11/2014	02/03/2015	
GGH	D2	09/08/2013	20	20	15	100	09/08/2014	09/11/2014	
GGH	D3	30/11/2013	24	20	15	120	30/11/2014	02/03/2015	
GGH	D4	30/11/2013	28	20	15	140	30/11/2014	02/03/2015	
GGH	E (UCV)	13/05/2014	0.47	0.38	0.38	124	13/05/2015	13/08/2015	
GGH	F (UCV)	12/05/2014	0.41	0.38	0.38	108	24/01/2014	24/04/2014	
GGH	G	02/11/2013	21	25	18.75	84	02/11/2014	02/02/2015	
GGH	H (UCV)	21/12/2013	0.41	0.38	0.38	108	21/12/2014	21/03/2015	
GGH	I (UCV)	29/07/2013	0.4	0.38	0.38	105	29/07/2014	29/10/2014	
GGH	J	11/10/2013	22	25	18.75	88	11/10/2014	11/01/2015	
GGH	Beatson Th1	41376	20	25	18.75	80			Still to receive data.
GGH	FLEXIS	#REF!	#REF!	n/a	n/a	n/a	n/a	n/a	remove from list?
IRH	1 (UCV)	03/08/2013	0.39	0.38	n/a	103	03/08/2014	03/11/2014	
IRH	2	04/08/2013	26	25	18.75	104	04/08/2014	04/11/2014	
IRH	3	09/05/2014	23	25	18.75	92	09/05/2015	09/08/2015	
IRH	4	09/05/2014	26	25	18.75	104	09/05/2015	09/08/2015	
IRH	5	09/07/2013	26	20	15	130	09/07/2014	09/10/2014	
IRH	6	09/07/2013	27	20	15	135	09/07/2014	09/10/2014	
IRH	DSU	11/11/2013	15.6	20	15	78	11/11/2014	11/02/2015	Capital Upgrade planned
RAH	1	19/02/2014	20	20	15	100	19/02/2015	19/05/2015	
RAH	2	27/04/2013	20	20	15	100	27/04/2014	27/07/2014	
RAH	3	10/03/2014	26	20	15	130	10/03/2015	10/06/2015	
RAH	4	09/02/2014	30	20	15	150	09/02/2015	09/05/2015	
RAH	5	11/02/2014	26	20	15	130	11/02/2015	11/05/2015	
RAH	6	11/05/2014	26	20	15	130	11/05/2015	11/08/2015	

RAH	7 (UCV)	05/08/2013	0.42	0.38	0.38	111	05/08/2014	05/11/2014	
RAH	8 (UCV)	09/08/2013	0.39	0.38	0.38	103	09/08/2014	09/11/2014	
RAH	9	18/02/2013	26	20	15	130	18/02/2014	18/05/2014	
RAH	D1	23/02/2014	26	20	15	130	23/02/2015	23/05/2015	
RAH	D2	22/02/2013	26	20	15	130	22/02/2014	22/05/2014	
RAH	Matty A	16/02/2014	26	25	18.75	104	16/02/2015	16/05/2015	
RAH	Matty B	01/10/2013	27	25	18.75	108	01/10/2014	01/01/2015	
RAH	DSU Treat Rm10	13/05/2014	22.7	20	15	114	13/03/2014	13/06/2013	
RHSC	1	30/04/2013	16	20	15	80	30/04/2014	30/07/2014	Mechanical works needed
RHSC	2	31/10/2013	15.5	20	15	78	31/10/2014	31/01/2015	
RHSC	3	30/04/2013	18	20	15	90	30/04/2014	30/07/2014	Altertions currently being carried out.
RHSC	4	16/01/2013	16.5	20	15	83	16/01/2014	16/04/2014	Altertions currently being carried out.
RHSC	5(UCV)	30/05/2013	0.37	0.38	0.38	97	30/05/2014	30/08/2014	
RHSC	6	01/05/2013	17	20	15	85	01/05/2014	01/08/2014	Altertions currently being carried out.
RHSC	7	30/05/2013	20.5	20	15	103	30/05/2014	30/08/2014	
RHSC	KELVIN	31/05/2013	17.2	20	15	86	31/05/2014	31/08/2014	
RHSC	CATH LAB	11/06/2013	30	20	15	150	11/06/2014	11/09/2014	Jan-00
SGH	Endoscopy	31/05/2013	30.8	25	18.75	123	31/05/2014	31/08/2014	
SGH	GEN TH 1	18/05/2013	34	25	18.75	136	18/05/2014	18/08/2014	
SGH	Gen Th2	18/05/2013	25	25	18.75	100	18/05/2014	18/08/2014	
SGH	Uro Th1	11/05/2013	19.44	25	18.75	78	11/05/2014	11/08/2014	
SGH	Uro Th 2	18/05/2013	22	25	18.75	88	18/05/2014	18/08/2014	
SGH	Orth Th1 (UCV)	10/05/2013	0.43	0.38	n/a	113	10/05/2014	10/08/2014	
SGH	Orth Th2 (UCV)	11/05/2013	0.39	0.38	n/a	103	11/05/2014	11/08/2014	
SGH	Orth Th3 (UCV)	11/05/2013	0.37	0.38	n/a	97	11/05/2014	11/08/2014	
SGH	Gyn Th1	02/06/2013	22.8	25	18.75	91	02/06/2014	02/09/2014	
SGH	Gyn Th2	05/08/2013	22.3	25	18.75	89	05/08/2014	05/11/2014	
SGH	Gyn Th3	11/04/2012	21	25	18.75	84	11/04/2013	11/07/2013	
SGH	Neuro th 1	01/06/2013	26.4	25	18.75	106	01/06/2014	01/09/2014	
SGH	Neuro th 2	01/06/2013	24.9	25	18.75	100	01/06/2014	01/09/2014	
SGH	Neuro th 3	01/06/2013	28.45	25	18.75	114	01/06/2014	01/09/2014	
SGH	Neuro th 4	11/05/2013	24.7	25	18.75	99	11/05/2014	11/08/2014	
SGH	Neuro th 5	01/06/2013	25.83	25	18.75	103	01/06/2014	01/09/2014	
SGH	Neuro th 6	01/06/2013	20.88	25	18.75	84	01/06/2014	01/09/2014	
SGH	Neuro th 7	01/06/2013	26.8	25	18.75	107	01/06/2014	01/09/2014	
SGH	Neo natal 1	21/06/2012	28	25	18.75	112	21/06/2013	21/09/2013	

SGH	Neo natal 2	21/06/2012	31	25	18.75	124	21/06/2013	21/09/2013	
SGH	Podiatry	31/05/2013	19	25	18.75	76	31/05/2014	31/08/2014	
SGH	Maxillo facial	01/06/2013	16	15	11.25	107	01/06/2014	01/09/2014	
VIC	Theatre 1 (UCV)	28/10/2012	0.38	0.38	n/a	100	28/10/2013	28/01/2014	
VIC	Theatre 2 (UCV)	03/11/2013	0.38	0.38	n/a	100	03/11/2014	03/02/2015	
VIC	Theatre 3	03/11/2012	20	20	15	100	03/11/2013	03/02/2014	
VIC	Theatre 4	28/10/2013	17	20	15	85	28/10/2014	28/01/2015	
VIC	Theatre 8	28/10/2013	18	20	15	90	28/10/2014	28/01/2015	
VIC ACH	1	19/08/2013	19	20	15	90	29/01/2014	29/04/2014	
VIC ACH	2	19/08/2013	16	20	15	90	06/02/2014	06/05/2014	
VIC ACH	3	31/03/2014	0.39	0.38	0.38	103	14/03/2014	14/06/2014	
VIC ACH	4	01/04/2014	0.42	0.38	0.38	111	14/03/2014	14/06/2014	
VIC ACH	5	21/08/2013	15	20	15	95	28/01/2014	28/04/2014	
VIC ACH	6	21/08/2013	18	20	15	95	29/01/2014	29/04/2014	
VIC ACH	7	20/08/2013	19	20	15	95	07/02/2014	07/05/2014	
VIC ACH	8	20/08/2013	18	20	15	90	29/01/2014	29/04/2014	
STB ACH	1	19/08/2013	17	20	15	85	19/08/2014	24/01/2014	Re-Balanced overall (Theatre, prep, anaes, etc) and remains at 17 air changes
STB ACH	2	19/08/2013	17	20	15	85	19/08/2014	24/01/2014	Re-Balanced overall (Theatre, prep, anaes, etc) and remains at 17 air changes
STB ACH	3	29/01/2014	0.42	0.38	0.38	111	29/01/2015	26/05/2013	
STB ACH	4	13/02/2104	0.4	0.38	0.38	105	13/02/2105	26/05/2013	
STB ACH	5	18/08/2013	15	20	15	75	18/08/2014	25/01/2014	Re-Balanced overall (Theatre, prep, anaes, etc) and inc from 14 to 15 air changes
STB ACH	6	19/08/2013	16	20	15	80	19/08/2014	25/01/2014	Re-Balanced overall (Theatre, prep, anaes, etc) and inc from 15 to 16 air changes
VOL	1	05/07/2013	32	25	18.75	128	05/07/2014	05/10/2014	
VOL	2	05/07/2013	29	25	18.75	116	05/07/2014	05/10/2014	
VOL	3	05/07/2013	31	25	18.75	124	05/07/2014	05/10/2014	
WIG	1	29/09/2013	16.7	20	15	84	29/09/2014	29/12/2014	
WIG	2	29/09/2013	19	20	15	95	29/09/2014	29/12/2014	
WIG	3	29/09/2013	22.5	20	15	113	29/09/2014	29/12/2014	
WIG	4	16/09/2013	20.9	20	15	105	16/09/2014	16/12/2014	

WIG	L2A (Ortho)	22/09/2012	16.6	20	15	83	22/09/2013	22/12/2013	
WIG	L2B (Gen)	22/09/2012	21.5	20	15	108	22/09/2013	22/12/2013	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
GLASGOW ROYAL INFIRMARY

01/06/2014

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
GRI	A	28/01/2014	18.4	20	15	92	28/01/2015	28/04/2015	
GRI	B	18/03/2014	20	20	15	100	18/03/2015	18/06/2015	
GRI	C	26/02/2014	23.29	20	15	116	26/02/2015	26/05/2015	
GRI	D	11/02/2014	18.8	20	15	94	11/02/2015	11/05/2015	
GRI	E	16/07/2013	22	20	15	110	16/07/2014	16/10/2014	
GRI	F	21/01/2014	24.4	20	15	122	21/01/2015	21/04/2015	
GRI	G	02/07/2013	16	12	9	133	02/07/2014	02/10/2014	Upgrade Underway
GRI	H	02/07/2013	15	11	8.25	136	02/07/2014	02/10/2014	Upgrade Underway
GRI	K	14/05/2013	9	11	8.25	82	14/05/2014	14/08/2014	Static pressure increased by 56% after Plenum Upgrade. Air flow increased as a result
GRI	L (Store)	14/05/2013	5.6	11	8.25	51	14/05/2014	14/08/2014	Static pressure increased by 56% after Plenum Upgrade. Air flow increased as a result
GRI	M (UCV)	16/10/2013	0.44	0.38	0.38	116	16/10/2014	16/01/2015	
GRI	N (UCV)	07/04/2014	0.49	0.38	0.38	129	07/04/2015	07/07/2015	
GRI	R (UCV)	05/12/2013	0.43	0.38	0.38	113	05/12/2014	05/03/2015	
GRI	S	12/11/2013	20	18	13.5	111	12/11/2014	12/02/2015	
GRI	U	13/08/2013	19	20	15	95	13/08/2014	13/11/2014	
GRI	V	30/07/2013	20	20	15	100	30/07/2014	30/10/2014	
GRI	W	05/12/2013	17	20	15	85	05/12/2014	05/03/2015	
GRI	X	04/02/2014	19	20	15	95	04/02/2015	04/05/2015	
GRI	Y	16/10/2013	16	20	15	80	16/10/2014	16/01/2015	
GRI	Z	06/08/2013	20	20	15	100	06/08/2014	06/11/2014	
GRI	1	13/08/2013	28	20	15	140	13/08/2014	13/11/2014	
GRI	2	23/07/2013	21	20	15	105	23/07/2014	23/10/2014	
GRI	3	23/10/2013	19	20	15	95	23/10/2014	23/01/2015	
GRI	4	23/07/2013	19	20	15	95	23/07/2014	23/10/2014	
GRI	5	18/10/2013	23	20	15	115	18/10/2014	18/01/2015	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
GARTNAVEL GENERAL HOSPITAL (GGH)

01/06/2014

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
GGH	A	18/10/2013	18	20	15	90	18/10/2014	18/01/2015	
GGH	B	04/10/2013	20	20	15	101	04/10/2014	04/01/2015	
GGH	C	26/10/2013	20	20	15	100	26/10/2014	26/01/2015	
GGH	D	02/11/2013	20	20	15	100	02/11/2014	02/02/2015	
GGH	D1	30/11/2013	21	20	15	105	30/11/2014	02/03/2015	
GGH	D2	09/08/2013	20	20	15	105	09/08/2014	09/11/2014	
GGH	D3	30/11/2013	24	20	15	120	30/11/2014	02/03/2015	
GGH	D4	30/11/2013	28	20	15	140	30/11/2014	02/03/2015	
GGH	E (UCV)	13/05/2014	0.47	0.38	0.38	124	13/05/2015	13/08/2015	
GGH	F (UCV)	12/05/2014	0.41	0.38	0.38	108	12/05/2015	12/08/2015	
GGH	G	02/11/2013	21	25	18.75	84	02/11/2014	02/02/2015	
GGH	H (UCV)	21/12/2013	0.41	0.38	0.38	108	21/12/2014	21/03/2015	
GGH	I (UCV)	29/07/2013	0.4	0.38	0.38	105	29/07/2014	29/10/2014	**Contract Engineering carried out Theatre ventilation validation for the NHS Project Dept on the 29-07-2013 there are a number of issues that require to be altered/adjusted.**
GGH	J	11/10/2013	22	25	18.75	88	11/10/2014	11/01/2015	
GGH	Beatson Th1	12/04/2013	20	25	18.75	80	12/04/2014	12/07/2014	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
INVERCLYDE ROYAL HOSPITAL (IRH)

		INPUT DATA							01/06/2014
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	SHTM RECOMMENDED READING	75% RULE	% DESIGN	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
IRH	1 (UCV)	03/08/2013	0.39	0.38	n/a	103	03/08/2014	03/11/2014	
IRH	2	04/08/2013	26	25	18.75	104	04/08/2014	04/11/2014	
IRH	3	09/05/2014	23	25	18.75	92	09/05/2015	09/08/2015	
IRH	4	09/05/2014	26	25	18.75	104	09/05/2015	09/08/2015	
IRH	5	09/07/2013	26	20	15	130	09/07/2014	09/10/2014	
IRH	6	09/07/2013	27	20	15	135	09/07/2014	09/10/2014	
IRH	DSU	11/11/2013	15.6	20	15	78	11/11/2014	11/02/2015	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
ROYAL ALEXANDRA HOSPITAL (RAH)

01/06/2014

		INPUT DATA							
SITE	**THEATRE**	**DATE CARRIED OUT**	**AIR FLOW READING**	**SHTM RECOMMENDED READING**	**75% RULE**	**% DESIGN**	**PROPOSED DATE OF NEXT VALIDATION**	**ESCALATION DATE**	**COMMENTS**
RAH	1	19/02/2014	20	20	15	100	19/02/2015	19/05/2015	
RAH	2	27/04/2014	20	20	15	100	27/04/2015	27/07/2015	
RAH	3	10/03/2014	26	20	15	130	10/03/2015	10/06/2015	
RAH	4	09/02/2014	30	20	15	150	09/02/2015	09/05/2015	
RAH	5	11/02/2014	26	20	15	130	11/02/2015	11/05/2015	
RAH	6	11/05/2014	26	20	15	130	11/05/2015	11/08/2015	
RAH	7 (UCV)	05/08/2013	0.42	0.38	0.38	111	05/08/2014	05/11/2014	
RAH	8 (UCV)	09/08/2013	0.39	0.38	0.38	103	09/08/2014	09/11/2014	
RAH	9	18/02/2014	26	20	15	130	18/02/2015	18/05/2015	
RAH	D1	23/02/2014	26	20	15	130	23/02/2015	23/05/2015	
RAH	D2	16/02/2014	26	20	15	130	16/02/2015	16/05/2015	
RAH	Matty A	01/11/2013	27	25	18.75	108	01/11/2014	01/02/2015	
RAH	Matty B	01/10/2013	27	25	18.75	108	01/10/2014	01/01/2015	
RAH	DSU Treat	13/05/2014	22.7	15	11.25	151	13/05/2015	13/08/2015	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
ROYAL HOSPITAL FOR SICK CHILDREN (RHSC)

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
RHSC	1	30/04/2013	16	20	15	80	30/04/2014	30/07/2014	Mechanical works needed
RHSC	2	31/10/2013	15.5	20	15	78	31/10/2014	31/01/2015	
RHSC	3	30/04/2013	18	20	15	90	30/04/2014	30/07/2014	Altertions currently being carried out.
RHSC	4	01/05/2013	16.5	20	15	83	01/05/2014	01/08/2014	Altertions currently being carried out.
RHSC	5	30/05/2013	0.37	0.38	0.38	97	30/05/2014	30/08/2014	
RHSC	6	01/05/2013	17	20	15	85	01/05/2014	01/08/2014	Altertions currently being carried out.
RHSC	7	30/05/2013	20.5	20	15	103	30/05/2014	30/08/2014	
RHSC	KELVIN	31/05/2013	17.2	20	15	86	31/05/2014	31/08/2014	
RHSC	CATH LAB	11/06/2013	30	20	15	150	11/06/2014	11/09/2014	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
Vale Of Leven (VoL)

01/06/2014

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
VOL	1	05/07/2013	32	25	18.75	128	05/07/2014	05/10/2014	
VOL	2	05/07/2013	29	25	18.75	116	05/07/2014	05/10/2014	
VOL	3	05/07/2013	31	25	18.75	124	05/07/2014	05/10/2014	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
Western Infirmary (WI)

01/06/2014

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
WIG	1	29/09/2013	16.7	20	15	84	29/09/2014	29/12/2014	
WIG	2	29/09/2013	19	20	15	95	29/09/2014	29/12/2014	
WIG	3	29/09/2013	22.5	20	15	113	29/09/2014	29/12/2014	
WIG	4	16/09/2013	20.9	20	15	105	16/09/2014	16/12/2014	
WIG	L2A (Ortho)	22/09/2012	16.6	20	15	83	22/09/2013	22/12/2013	Access to be arranged
WIG	L2B (Gen)	22/09/2012	21.5	20	15	108	22/09/2013	22/12/2013	Access to be arranged

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
SOUTHERN GENERAL HOSPITAL (SGH)

01/06/2014

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
SGH	Endoscopy	31/05/2013	30.8	25	18.75	123	31/05/2014	31/08/2014	
SGH	GEN TH 1	18/05/2013	34	25	18.75	136	18/05/2014	18/08/2014	
SGH	Gen Th2	18/05/2013	25	25	18.75	100	18/05/2014	18/08/2014	
SGH	Uro Th1	11/05/2013	19.44	25	18.75	78	11/05/2014	11/08/2014	
SGH	Uro Th 2	18/05/2013	22	25	18.75	88	18/05/2014	18/08/2014	
SGH	Orth Th1 (UCV	10/05/2013	0.43	0.38	n/a	113	19/08/2014	19/02/2014	
SGH	Orth Th2 (UCV	11/05/2013	0.39	0.38	n/a	103	11/05/2014	11/08/2014	
SGH	Orth Th3 (UCV	11/05/2013	0.39	0.38	n/a	103	11/05/2014	11/08/2014	
SGH	Gyn Th1	02/06/2013	22.8	25	18.75	91	02/06/2014	02/09/2014	Theatre out of use
SGH	Gyn Th2	05/08/2013	22.3	25	18.75	89	05/08/2014	05/11/2014	
SGH	Gyn Th3	11/04/2012	21	25	18.75	84	11/04/2013	11/07/2013	
SGH	Neuro th 1	01/06/2013	26.4	25	18.75	106	01/06/2014	01/09/2014	
SGH	Neuro th 2	01/06/2013	24.9	25	18.75	100	01/06/2014	01/09/2014	
SGH	Neuro th 3	01/06/2013	28.45	25	18.75	114	01/06/2014	01/09/2014	
SGH	Neuro th 4	11/05/2013	24.7	25	18.75	99	11/05/2014	11/08/2014	
SGH	Neuro th 5	01/06/2013	25.83	25	18.75	103	01/06/2014	01/09/2014	
SGH	Neuro th 6	01/06/2013	20.88	25	18.75	84	01/06/2014	01/09/2014	
SGH	Neuro th 7	01/06/2013	26.8	25	18.75	107	01/06/2014	01/09/2014	
SGH	Neo natal 1	21/06/2012	28	25	18.75	112	21/06/2013	21/09/2013	Access required
SGH	Neo natal 2	21/06/2012	31	25	18.75	124	21/06/2013	21/09/2013	Access required
SGH	Podiatry	31/05/2013	19	25	18.75	76	31/05/2014	31/08/2014	
SGH	Maxillo facial	01/06/2013	16	15	11.25	107	01/06/2014	01/09/2014	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
VICTORIA INFIRMARY (VI)

		INPUT DATA							
SITE	THEATRE	DATE CARRIED OUT	AIR FLOW READING	DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)	MIN AIR CHANGES (75% RULE) UCV = 100%	% OF DESIGN AIR CHANGES	PROPOSED DATE OF NEXT VALIDATION	ESCALATION DATE	COMMENTS
VIC	Theatre 1 (	28/10/2012	0.38	0.38	n/a	100	28/10/2013	28/01/2014	
VIC	Theatre 2 (	03/11/2013	0.38	0.38	n/a	100	03/11/2014	03/02/2015	
VIC	Theatre 3	03/11/2012	20	20	15	100	03/11/2013	03/02/2014	
VIC	Theatre 4	28/10/2013	17	20	15	85	28/10/2014	28/01/2015	
VIC	Theatre 8	28/10/2013	18	20	15	90	28/10/2014	28/01/2015	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
VICTORIA ACH

		INPUT DATA							
SITE	**THEATRE**	**DATE CARRIED OUT**	**AIR FLOW READING**	**DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)**	**MIN AIR CHANGES (75% RULE) UCV = 100%**	**% OF DESIGN AIR CHANGES**	**PROPOSED DATE OF NEXT VALIDATION**	**ESCALATION DATE**	**COMMENTS**
VIC ACH	1	19/08/2013	19	20	15	90	19/08/2014	29/04/2014	
VIC ACH	2	19/08/2013	16	20	15	90	19/08/2014	06/05/2014	Check VCD balance over whole area in 2014 as Air Changes did not alter upon re-test.
VIC ACH	3	31/03/2014	0.39	0.38	0.38	103	31/03/2015	14/06/2014	
VIC ACH	4	01/04/2014	0.42	0.38	0.38	111	01/04/2015	14/06/2014	
VIC ACH	5	21/08/2013	15	20	15	95	21/08/2014	28/04/2014	Check VCD balance over whole area in 2014 as Air Changes did not alter upon re-test.
VIC ACH	6	21/08/2013	18	20	15	95	21/08/2014	29/04/2014	
VIC ACH	7	20/08/2013	19	20	15	95	20/08/2014	07/05/2014	
VIC ACH	8	20/08/2013	18	20	15	90	20/08/2014	29/04/2014	

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

NHSGG&C THEATRE VALIDATION DATA
STOBHILL ACH

		INPUT DATA							
SITE	**THEATRE**	**DATE CARRIED OUT**	**AIR FLOW READING**	**DESIGN AIR CHANGES CONVENTIONAL THEATRE/UCV AVERAGE VELOCITY 2M LEVEL(M/s)**	**MIN AIR CHANGES (75% RULE) UCV = 100%**	**% OF DESIGN AIR CHANGES**	**PROPOSED DATE OF NEXT VALIDATION**	**ESCALATION DATE**	**COMMENTS**
STB ACH	1	19/08/2013	17	20	15	85	19/08/2014	24/01/2014	Check VCD balance over whole area in 2014.
STB ACH	2	19/08/2013	17	20	15	85	19/08/2014	24/01/2014	Check VCD balance over whole area in 2014.
STB ACH	3	29/01/2014	0.42	0.38	0.38	111	29/01/2015	26/05/2013	
STB ACH	4	13/02/2104	0.4	0.38	0.38	105	13/02/2105	26/05/2013	29/01/14 Vel 0.30 with the need to change Hepa Filter on 13/02/14
STB ACH	5	18/08/2013	15	20	15	75	18/08/2014	25/01/2014	Cofely Investigating with Howorth support
STB ACH	6	19/08/2013	16	20	15	80	19/08/2014	25/01/2014	Cofely Investigating with Howorth support

UCV THEATRES - HTM 03-01 states that the total 2 metre average velocity must be equal to or above 0.38m/s and that all 1 metre velocity readings must all be 0.2 m/s or above. In addition each UCV section 2 metre average velocity must be +/- 6% of total 2 metre average.

From: Powrie, Ian
To: "Angus Horne"
Subject: RE: Various points regarding taps and showers
Date: 16 June 2014 08:25:00

Angus

Many Thanks this sound ideal, let me know when you are ready and we can set up a meeting to fine tune, I would like to build in costs to my budget plan for these proposals.

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Angus Horne [redacted]
Sent: 13 June 2014 16:57
To: Powrie, Ian
Subject: Various points regarding taps and showers

Dear Ian,

Thanks for calling yesterday. We discussed various points and I am glad that a way forward has been found regarding the taps and outlet fittings though I would have preferred that we had prevailed for other reasons. I cannot find a way of convincing myself that allowing taps to drain down after every operation will exacerbate the risk of retrograde contamination when it is already known to be the case for showers: there is no difference.

We also discussed the future management and maintenance of taps and showers which is really important and clearly you have been thinking about some very fine detail which is commendable. I had a meeting with our design engineers and technicians this morning and we came up with some ideas.

Thermal disinfection rigs

-

The detachable design of the tap allows for the main mechanism and body to be demounted and taken away to a workshop. This greatly increases the scope for achieving thorough thermal disinfection. We effectively already have a template for parts which would be very useful for a thermal disinfection rig in the form of fittings on our assembly test rig so I think we could replicate those in a way that would lend itself well to your requirement. We also think that a closed loop arrangement would be good to conserve energy and we are going to have a further

think about how best to achieve that. With regards to shower hoses it would be very easy to join hoses together to form a single length and circulate water (again in a closed loop) at the desired temperature for an appropriate duration. With regards as to what the temperature/duration should be I asked Jimmy Walker about this when I met him in Porton Down a few weeks ago and he did confirm that his department had the information and that he would send it to me but so far I haven't had anything from him. This was in relation to pseudomonas aeruginosa and I think there is some relevant information in HTM 04-01 Part B which may relate for legionella so I will have a look for that.

Transportation in the hospital

-

I think this is an important point. We recently had some new carrying cases made for our field sales people and these feature foam cut-outs to hold and protect the Optitherm tap. The foam should be closed cell foam which doesn't soak up water and I think these inserts should be replaceable from time to time. We think the tap is easiest handled when inverted and the cut-outs accommodate for this. We were also thinking that there should be some form of identification for taps going to the workshop and those going back to ward areas. Having said that we don't know what the rate of traffic might be but I don't expect a huge volume because you are blessed with very clean water and the filtration you described to me will be a big help too.

Today we received a call-off for the first quantity of taps to be delivered next week and we feel it is important that we offer support when that process starts to make sure that it is all done correctly and I have advised our applications engineer that his involvement will be required shortly with regards to fitting and commissioning.

I have asked colleagues to give further consideration to the above and we will be pleased to help wherever we can.

Best regards,

Angus

From:	Mills, Clare
To:	Campbell, Carole; Carr, Michelle; Cassidy, Annette; Cheaitou, Janet; Cleaver, Don; Dawes, Heather; Dodd, Angela; Dorrian, Grace; Forsyth, Ailsa; Gallacher, Alan; Gilmore, John; Glass, Bill; Groom, Susan; Halliday, Seonaid; Hamilton, Kate; Hamilton, Pauline; Inkster, Teresa (NHSmail); Johnston, Elaine; Kane, Mary Anne; Loughran, Kate; MacKay, Elizabeth; Martin, Elaine; McEwan, Katie; McFadden, Jim; McGuigan, Mags; McIntyre, Hazel; McMullin, Linda; McNeil, Elaine; Menzies, John; Mills, Gareth; Nealis, Ron; Philp, Pamela; Powrie, Ian; Rankin, Linden; Russell, Steve; Shankland, Anne; Smith, Euan; Traquair Smith, Ann; Walker, Susan; Ward, Danielle; Whiteford, Ryan; Williams, Craig
Subject:	TUMM Mtg 17/06/14
Date:	10 June 2014 12:56:29
Attachments:	TUMM 17 06 14.doc TUMM 15 04 14.doc Theatre Light Template MASTER.xls Theatre Table Template MASTER.xls Air_sampling_policy_Feb_20101.doc

---

Hi

Please find attached papers for the next meeting on **17/06/14** at **9am** in **Conference Room 2.16B, Level 2, VACH.**

1. Agenda
2. Notes of previous mtg
3. Theatre Light Database
4. Theatre Table Database
5. Air Sampling Policy.

-

Apologies have been received from: Kate Hamilton.

Thanks.

Clare Mills
PA to CSMs for
Theatres and Anaesthetics (South and ACHs)
General Surgery (South)

From: Gardner, Andrew
To: Kane, Mary Anne
Subject: Estates SMT SLWG - Compliance SLWG
Date: 18 June 2014 14:33:15
Attachments: Estates SMT SLWG 23.04.14.doc
Estates SMT SLWG Meeting 1.doc
Estates SMT SLWG Meeting 2.doc

Estates SMT SLWG -
Compliance SLWG

In Attendance and Apologies
Mary Anne Kane
Billy Hunter
Alan Gallacher
John Green
David Pace
Ian Powrie
Don Cleaver

DC circulated a hard copy Job Description for the Water Safety Compliance Manager's role with a Person Specification. The Job Description was based on a local authority post which is similar in nature. Copy to be circulated electronically including to Kenneth Flemming and Stephen Wallace for comment/review.

IP updated the meeting that he has discussed the National Framework with HFS who have advised that the Framework can be used potentially. IP has a meeting with them on 7th May to discuss how this may look.

AG has confirmed AE has a questionnaire out on Water Safety which needs to be completed this week. A presentation will be scheduled for 9th/10th May after which a decision will be taken on how or if an assessment is required.

MAK had not circulated Job Description for Quality post in Decontamination, BH to pick this up as soon as possible.

JG had not obtained the Job Description for Clinical Effectiveness. JG to obtain as soon as possible or ask Stephen Wallace to get Job Descriptions from the CAG system.

Discussion occurred again on the role/Person Specification for the "generalist" Compliance Manager's role and the role of AE/AP/CP etc. It was agreed because of the AE/AP/CP etc the technical component was covered.

Discussion occurred on the need to do a short term piece of work to bring matters up to scratch - thereafter the role would be different.

Discussion occurred on the AE reports going to the "Designated Person" who is the Director of Facilities. MAK to review if any reports are in place.

Discussion occurred on what role H&S has on Compliance Management. Specific examples raised were Confined Spaces and Working at Heights. The 16 topics previously reviewed for SCART as belonging to Estates are to be reviewed by JG and circulated to the group.

AP/CP Review to be completed of numbers in place for each site. Gail Bradbury is the custodian of the document. MAK to circulate SEMs and GMs should be addressing this locally.

All SCART topics need a strategy developed in the same way as Asbestos. DP identified the need to do this therefore requires a degree of technical expertise.

Discussion occurred on the Compliance Manager's span of control particularly around AP related issues but also in relation to more generic H&S related matters.

HV/LV was discussed as a critical service requirement which will be supported by an AE who will be appointed in the next few weeks.

Estates SMT SLWG
Compliance SLWG
Meeting 1

In Attendance and Apologies
John Green
David Pace
Jim McFadden
Billy Hunter
Alan Gallacher
Ian Powrie
Mary Anne Kane
Don Cleaver

Discussion on pros and cons of centralised model occurred based around Asbestos Managers post.

It was agreed that the Estates H&S Practitioners post is **not** a Compliance post.

The Compliance team if centralized needs to be comprised of technical experts on specific areas. They would than be trained up in the other areas when in post. They would therefore be generic with a core competency.

AEs will be used nationally as well which will bring a degree of independence externally which links into the compliance team and APs.

AE/APs and Compliance Team relationships need to be clear.

Soft skills matter in the Compliance Team to ensure that team work is developed to resolve problems.

Administration of Compliance Team issues is a different issue that needs work done to lead and envision the support needed via the Helpdesk.

Leadership of the Compliance Team is critical to its success and the individual needs to have the right person specification to deliver. Focus and strategy with communication is critical to improving performance

MAK to circulate Job Descriptions for Asbestos Manager's post for comment. **MAK**

Consideration by all on what a centralised team looks like with numbers and technical skill sets. **ALL**

Discussion occurred on whether there was merit in searching someone to review the outstanding 14 topic/policies. This would involve bringing the policies up-to-date, completing a technical review of content and posting to

the internet after the consultation process.

It was agreed that if someone was seconded backfill could not be sourced; therefore the review of policy as a matter of priority should be tendered.

Description of work to be scoped by external consultant to be scoped in the next two weeks

MAK to link in with Hazel McIntyre to identify if there are any previous similar jobs. **MAK**

AZ Framework to be reviewed to ascertain if it covers this work. **IP**

SHORT TERM

Discussion occurred on Water Safety as a topic as an example of a large topic issues which needs to be addressed as is a point of focus currently.

Discussion in particular occurred on the HSE enforcement of L8 and SHTMs.

Asbestos Manager to write up from a Project Manager's perspective how they have approached Asbestos.

In receipt of this MAK will issue to group for discussion/review with a view to developing a tender for an independent consultant to review Water Safety in the Board. This would allow the group to review how effectively the Board can buy in support as a one off. **MAK**

Estates SMT SLWG
Compliance SLWG
Meeting 2

In Attendance and Apologies
John Green
Alan Gallacher
Ian Powrie
Mary Anne Kane
Don Cleaver

Apologies
Billy Hunter
Jim McFadden
David Pace

Job Descriptions had been received by the Group. DC and JG had looked on the intranet at Compliance Manager's Job Descriptions which varied in scope and breadth of knowledge.

Legionella/Water Safety Compliance was identified as a role within the compliance team which could focus completely on Water Safety Management for the Board due to the contract management arrangements in place in the Board.

Water Management Manager's Job Description to be developed based on Asbestos Manager's Job Descriptions. Qualification for post holder would be at "competent person" level.

The rest of the team would be "generalist" in nature covering the other compliance areas.

Discussion occurred on AE independence/AP role and HSE requirements in terms of Compliance Management.

"Generalist" personnel Person Specification was discussed:-

- Individual capable of auditing and quality assuring work;
- Individual who understands the "politics" of operational estates; and
- Individual who could implement process/procedure.

The Person employed as a "generalist" does not replace APs/CPs etc. The APs/CPs etc all have the technical knowledge and expertise.

MAK to get copy Decontamination Quality post Job Description. **MAK**

John Green to obtain clinical effectiveness Job Descriptions. **JG**

The Asbestos Manager's approach to Asbestos was discussed. This is a project management approach to delivery which is the way that all subjects should be approached.

Water Safety post should be recruited into as soon as possible.

AE role should be appointed to take forward the review.

The 14 topics to be reviewed should be tendered as soon as possible. IP advised he had linked into the National Framework advice regarding this. IP and Hazel McIntyre to link in with NSS lead.

From: McFadden, Jim
To: Powrie, Ian
Date: 20 June 2014 10:01:49
Attachments: Capital Project Request Template.doc

FYI

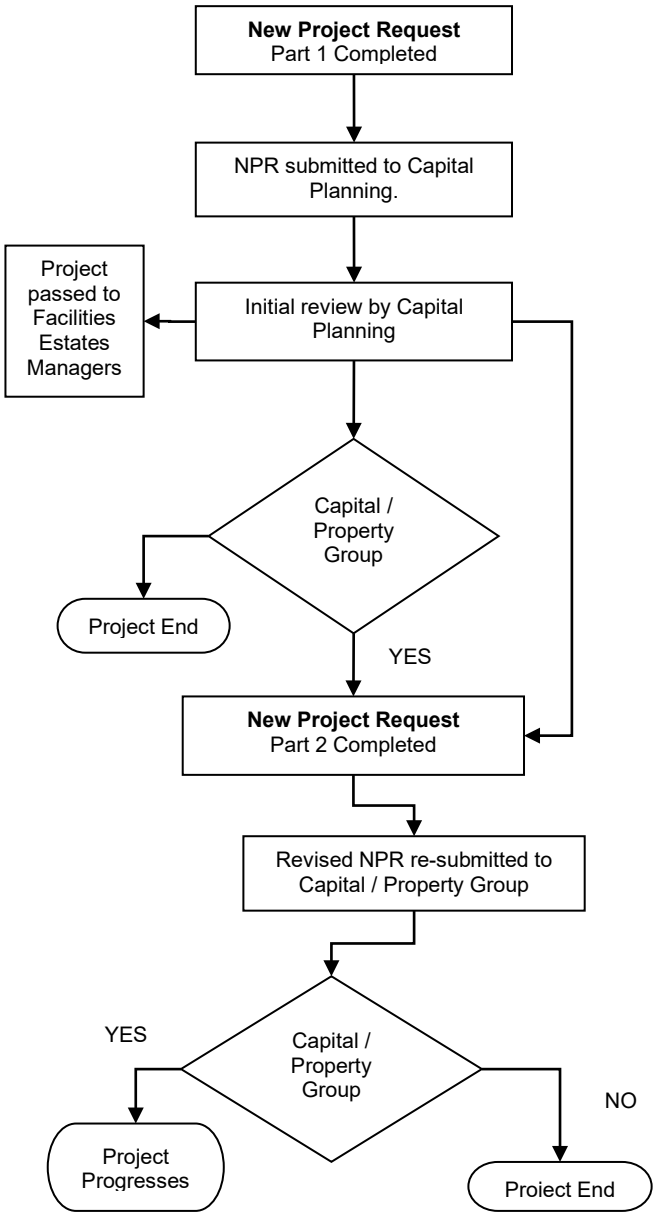
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

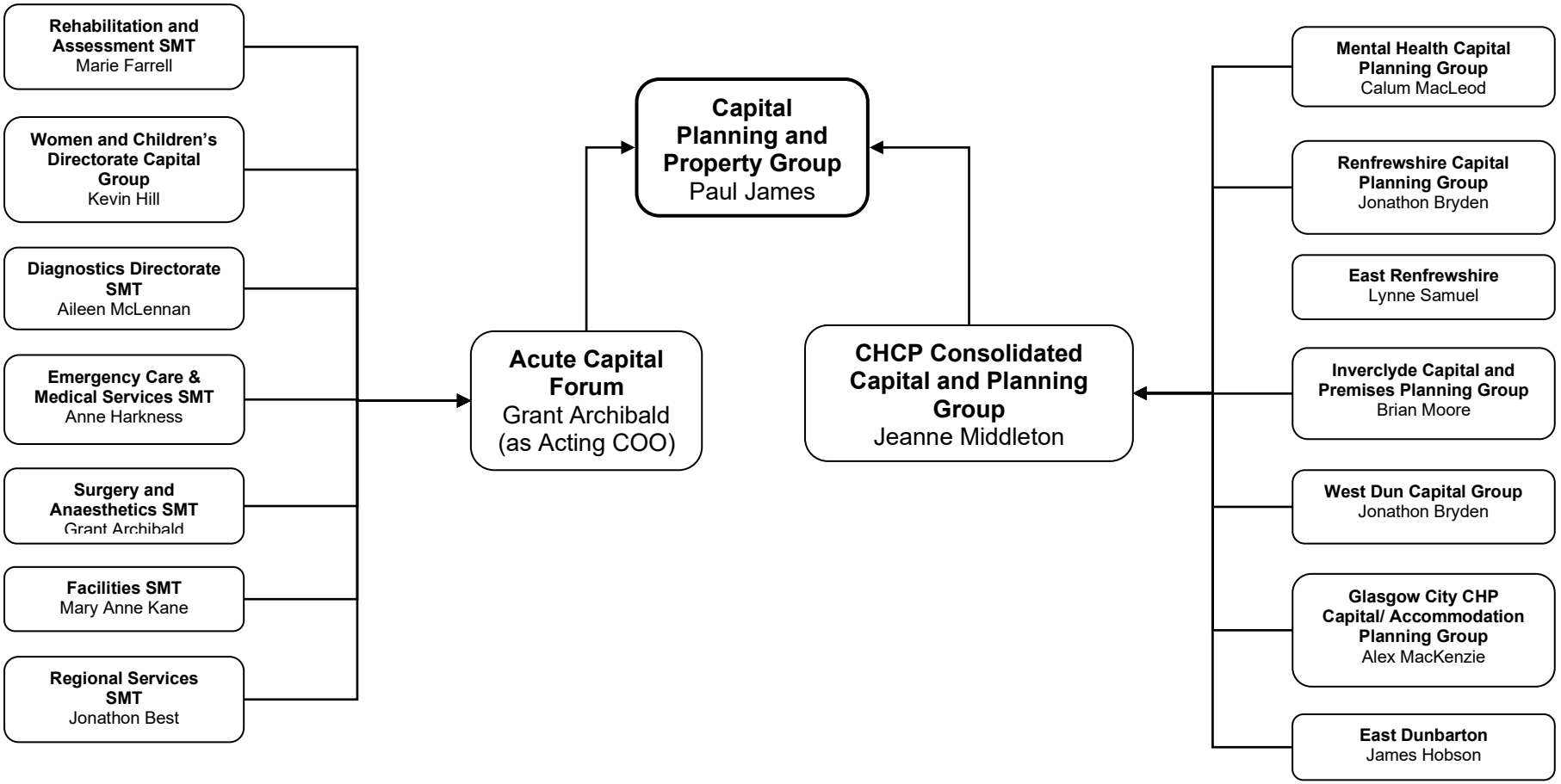
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

From: Kane, Mary Anne
To: Powrie, Ian; Loudon, David; Joannidis, Pamela
Cc: Hunter, William; McFadden, Jim; Gallacher, Alan; McNeil, Elaine; Bradbury, Gail
Subject: RE: NSGH HFS\HPS Pseudomonas review meeting 05/06/2014
Date: 25 June 2014 11:39:41

Ian
Yes I am happy for the minutes to be shared and will also have them noted as an Agenda item at the next board Water Safety Group.
Mary Anne

From: Powrie, Ian
Sent: 24 June 2014 18:12
To: Loudon, David; Kane, Mary Anne; Joannidis, Pamela
Cc: Hunter, William; McFadden, Jim; Gallacher, Alan
Subject: NSGH HFS\HPS Pseudomonas review meeting 05/06/2014

David\Mary Anne

Please find attached the minute for the above meeting specifically convened to review the status of the NSGH development with regards to the current National HPS\HFS *"Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water"* While taking in to account the stated position of the manufacturer (Horne Ltd) regarding the functions of the flow control device on the clinical taps employed within the NSGH.

The conclusion from this meeting was that the guidance recommending removal of these devices would stand, however it was unanimously agreed by the group that the NSGH "should be regarded as being in the "retrospective" category, not new build"

This will be further re-enforced by the following amendment to the revised national guidance on Pseudomonas due for publication in mid July.

NOTE

"While the policy of 'engineering out the problem' always applies, there are situations where this may not be easily achieved, or may not be appropriate.
These would include where alterations would create disruption and danger of infection.
This will particularly apply to retrospective compliance.
Similarly, where new build or refurbishment projects have already been contracted prior to the publication of updated guidance and contractual implications would inhibit making changes to the employer's requirements, then retrospective modifications to the engineered system may not be practical.
In these situations a risk-based and proportional response should be adopted by assessing risks arising from hazards, identifying the appropriate actions recommended within the guidance, and identifying operational steps to be taken in order to manage, eradicate or minimise the risks."

This effectively addresses any contractual concerns with completion of the project.

Mary Anne, I have also discussed the requirements for ICT support to carry out a risk assessment for the 6 area's within the NSGH which are deemed to have "high risk patients" in line with the above guidance with Jackie Barmanroy, who has asked that while she is on A/L, I copy the above minutes to Craig Williams & Pamela Joannidis ICT, in preparation for this risk assessment. Are you comfortable for me to share these minute with Craig & Pamela?

I expect that the risk assessment will be focused on the new, well engineered and fully compliant hot & cold water services design, supplemented by a 0.2 micron mains water filtration system to ensure consistent water supply quality and cleanliness, managed within the routine maintenance requirements set out within SHTM 04:01, Water safety for Healthcare premises Part B: Operational Management and the Boards water safety policy.

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Powrie, Ian
To: McCluskey, Fiona
Subject: FW: NSGH HFS\HPS Pseudomonas review meeting 05/06/2014
Date: 18 July 2014 16:52:00
Attachments: SGH mtg 050614 V2.docx

Hi Fiona

Please see e-mail below and minutes for the HPS\HFS meeting, held on the 5th June 2014.

Regards

Ian.

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Powrie, Ian
Sent: 25 June 2014 13:34
To: Barmanroy, Jackie; Joannidis, Pamela; Williams, Craig
Cc: Green, John
Subject: FW: NSGH HFS\HPS Pseudomonas review meeting 05/06/2014

Jackie

Please find attached the minute for the above meeting specifically convened to review the status of the NSGH development with regards to the current National HPS\HFS *"Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water"* While taking in to account the stated position of the manufacturer (Horne Ltd) regarding the functions of the flow control device on the clinical taps employed within the NSGH.

The conclusion from this meeting was that the guidance recommending removal of these devices would stand, however it was unanimously agreed by the group that the NSGH "should be regarded as being in the "retrospective" category, not new build"

This will be further re-enforced by the following amendment to the revised national guidance on Pseudomonas due for publication in mid July.

NOTE

"While the policy of 'engineering out the problem' always applies, there are situations where this may not be easily achieved, or may not be appropriate.
These would include where alterations would create disruption and danger of infection.
This will particularly apply to retrospective compliance.
Similarly, where new build or refurbishment projects have already been contracted prior to the publication of updated guidance and contractual implications would inhibit making changes to the employer's requirements, then retrospective modifications to the engineered system may not be practical.
In these situations a risk-based and proportional response should be adopted by assessing risks arising from hazards, identifying the appropriate actions recommended within the guidance, and identifying operational steps to be taken in order to manage, eradicate or minimise the risks."

This effectively addresses any contractual concerns with completion of the project.

As discussed I would be grateful if we could meet along with John Green (Facilities H&S Advisor) to carry out a risk assessment in line with the above recommendations, which I expect will be focused around the NSGH having a new , well engineered and fully compliant hot & cold water services design, supplemented by a 0.2 micron mains water filtration system to ensure consistent water supply quality and cleanliness, managed within the routine maintenance requirements set out within SHTM 04:01, Water safety for Healthcare premises Part B: Operational Management and the Boards water safety policy.

I am no A\L until 14th July, I have tentatively arranged a meeting date with John Green for the 15th July any time in the morning to suite you, if this is acceptable can you please arrange a venue and let John know. If this is not suitable can you propose some date options after the 4th August when John returns from A/L?

Many Thanks

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

[redacted]

From: Macleod, Mairi
To: Hughes, Janis
Bcc: "Rose, Carol"
Subject: RE: Schiehallion Operational Policy
Date: 01 July 2014 15:08:00

Janis

Technical viewpoint:

"Barrier" is created by hepa filtered supply to lobby with extract from isolation room/en suite therefore no cross infection between room and corridor in either direction. Reversal to create – ve lobby is not possible as no extract in lobby and no supply in isolation room/en suite

Mairi

From: Hughes, Janis [redacted]
Sent: 01 July 2014 12:07
To: Macleod, Mairi
Subject: RE: Schiehallion Operational Policy

I've spoken to the SCN and the issue is that sometimes if BMT patients are in a +ve pressure room currently but need a negative pressure room, they have to be moved out of the room with lobby and into a single cubicle to be reverse barrier nursed as it's not possibly to change the pressure in the RHSC rooms. They are asking if the pressure could be changed, if required, while patient is still in the room if their clinical condition dictates it.
Could we get a technical opinion?
Ta
J

From: Macleod, Mairi
Sent: 01 July 2014 09:43
To: Hughes, Janis
Subject: RE: Schiehallion Operational Policy

Janis

My understanding is that it is possible – but it is through the Building Management system- not sure why you would want to

The lobby is +ve and therefore ensuring that both the bedroom and the corridor are protected with the air being vented through the lobby's air handling unit

Mairi

From: Hughes, Janis [redacted]
Sent: 01 July 2014 09:15
To: Macleod, Mairi
Subject: FW: Schiehallion Operational Policy

See below, following last night's discussions. Think we talked about this before and that it is possible but not easy? Can you clarify?

Thanks
Janis

From: Kirkwood, Jean
Sent: 01 July 2014 09:12
To: Hughes, Janis
Cc: McVeigh, Alanna; Gibson, Brenda
Subject: RE: Schiehallion Operational Policy

Hi Janis,
Is it possible to have any of these rooms dual purpose? Changeable to negative pressure, to source isolate BMT patients?
Many thanks
Jean

From: McVeigh, Alanna
Sent: 30 June 2014 17:45
To: Gibson, Brenda; Kirkwood, Jean
Subject: FW: Schiehallion Operational Policy

Do you want to ask if its possible to have any neg pressure rooms for source isolation?

From: Hughes, Janis
Sent: 30 June 2014 17:28
To: McVeigh, Alanna
Cc: Gibson, Brenda; Brady, Coral; Redfern, Jamie
Subject: FW: Schiehallion Operational Policy

Alanna
In answer to a query in your operational policy, please see below from the Project Team
Let me know if you need anything else.
Regards
Janis

From: Macleod, Mairi
Sent: 19 June 2014 15:20
To: Hughes, Janis
Subject: RE: Schiehallion Operational Policy

Janis

There are 8 Hepa filtered isolation rooms within the Unit:

Bedroom	SCH-010	SCH-011	SCH-017	SCH-020	SCH-074	SCH-072	SCH-067	06 SCH-6
Lobby	SCH-009	SCH-013	SCH-018	SCH-019	SCH-075	SCH-071	SCH-068	SCH-064
En suite	SCH-007	SCH-015	SCH-016	SCH-023	SCH-076	SCH-070	SCH-069	SCH-065

And these are +ve pressure with separate air handing units for each individual room

Hope this is helpful

Mairi

From: Hughes, Janis [redacted]
Sent: 19 June 2014 14:24
To: Macleod, Mairi
Subject: Schiehallion Operational Policy

Mairi

Room number	Description	Notes including No. of People
SCH-027 / 022	Single cubicle rooms & en-suites	
SCH-020 / 019 / 023 SCH-017 / 018 / 016 SCH-074 / 075 / 076 SCH-072 / 071 / 070 SCH-067 / 068 / 069 SCH-066 / 064 / 065 SCH-015 next slide	Double-door rooms with en-suite & ante room	We have not yet had a response to our question whether these are the rooms which should be used for stem cell transplant and their specification - positive pressure, monitoring and HEPA filtration.
SCH-014	Dirty Utility	
SCH-021	Chemo room	Drug preparation and storage (medicine management)
SCH-024	General Store	
SCH-025	Resus Trolley	
SCH-062	Play / Dining Area	
SCH-063	Treatment Room	
SCH-073	Corridor	

As discussed - can you clarify query over isolation rooms, please.

Kind regards

Janis

Janis Hughes
Planning Manager - Women and Children's Directorate
☎ [redacted]
[redacted]

From: Macleod, Mairi
To: Loudon, David; Moir, Peter
Subject: June Monthly report
Date: 04 July 2014 13:30:30
Attachments: Report June 2014.docx

David & Peter

Profuse apologies for the tardiness of submitting June's monthly report.

Hope it is helpful

Mairi

Mairi Macleod
Project Manager New Children's Hospital
Brookfield Site Offices
Hardgate road
Govan

[redacted]

PS. I've signed up to improving our email culture

Report June 2014

New Children's Hospital Project Manager

1. Highlights
Wayfinding The RDD for way-finding continues with comments being feedback to BMCL within the prescribed timescales. **Zone checks** A number of zone checks were scheduled for May/June 2014 – the areas being checked are not as comlpeted as earlier zones. **Migration Workbooks** V1 of the MWBs have been completed for 80% of areas –and those completed have been issued with v2. I continue to chase up the outstanding v1s but these are for the more minor departments V2 of the MBWs requires the sections on Working Items and Surplus items to be completed.
2. Issues Nothing that needs escalation at present
3. Meetings attended
OTM workstreams
OTM Programme Board – was cancelled *OTM Paediatric Steering Group* issues: no issues that require escalation however, staff are now more vocal about their concerns regarding clarity on the dates for Migration. Huge amount of discussions also focused on how staff will get to the SGH site! *OTM Paediatric Inpatient Group* – no issues *OTM FM & Clinical Support Services meeting* – nothing to report that affects the Project Team
Interface with Charities
Science Centre & YCC The monthly YCC & Science Centre meeting took the form of a visit to the site to look at the atrium and ED & Imaging waits. The Outpatient Manager was present and this was extremely helpful in alleviating her concerns about the size of the area

Inpatient Psychiatry & YCC
The enhancement plans for the Inpatient psychiatry ward were further discussed and the final plans should be signed off by the Users in August

Ceiling Light Installations
The images for the light installations were agreed following the workshop on 9 June and forwarded to BMCL for production

Legacy Items
A useful meeting was held with the Arts Co-ordinator, the Archivist and staff from the RHSC to agree legacy items that will transfer to the NCH. Staff will look through the catalogue of images and identify what they want transferred and we will then work through where these should be put. (If there is funding required RHSC endowments will be used)

Schiehallion
The consultant for the Haemato-ward has been in discussion with TCT about using funds to enhance the rest of the ward in the NCH. I attended a meeting with the GM & CD and the department to discuss their aspirations. It would appear that she wishes to convert some rooms for parent's beverages and sitting. I have stressed that nothing will happen until post handover and that the 12-week commissioning period makes it tight to look at additional works (never mind the legalities about the interface with additional works and BMCL). It has been left that the GM will speak to Kevin and get his view.

Migration workstreams

Attended *Workstream Groups* – Clinical migration
Equipment
Migration Steering

Induction & Orientation
Further meeting held with colleagues from Education & Learning to develop the Induction & Orientation packages. Good progress is being made.

OTM Comms Group
June meeting was cancelled

4. Zone Checks

0517/8
1-519
1-520
2-513
2-514

5.Site Visits

AHPs & H@N teams
PICU staff

Directorate Management Team Heads of Nursing
6. Looking Forward: July 2014
Zone checks Wayfinding RDD Meeting with Radio lollipop – 23 June- cancelled due to a bereavement to be re-scheduled in August

From: Gardner, Andrew
To: Kane, Mary Anne
Subject: HAI Papers
Date: 08 July 2014 09:59:53
Attachments: SCRIBE Board Master Risks Summary June 2014.xls
HAI Related Issues July 2014.doc

HAI-SCRIBE Audit Results (Average) by Hospital | 1 - 3 | 4 - 9 | 10 - 19

	SUMMARY OF RISK SCORES: Clyde, North East, North West, South, Yorkhill	Clyde		North East							South				Yorkhill	
Scribe Ref		Inverclyde	Royal Alexandra	Glasgow Royal	Glasgow Royal - PRM	Lightburn	Drumchapel	Gartnavel	Western Infirmary	Vale of Leven	Southern General	Victoria Infirmary	Victoria - MHU	Mearnskirk	Yorkhill	SGH - Woman & Children
5.01	Is the flooring, impervious and easily cleaned	2.00	2.00	2.05	2.00	2.00	9.00	5.48	2.00	2.00	2.00	2.00	2.00	2.00	2.12	2.00
5.02	Carpeting is not fitted	3.33	4.73	6.95	5.60	12.00	2.00	2.07	5.88	5.78	6.40	5.04	6.86	16.00	6.35	16.80
5.03	Are the walls smooth	7.00	6.20	5.92	6.00	9.00	6.00	6.11	7.76	5.67	5.19	6.78	7.71	6.00	4.94	7.80
5.04	Are the ceilings smooth	6.67	6.70	6.08	7.80	6.00	6.75	7.22	7.94	6.00	5.21	6.26	7.29	3.00	6.18	8.40
5.05	Are the right angle junctions coved	2.00	3.93	2.00	2.00	2.00	2.00	2.07	2.00	2.00	2.10	2.09	3.43	4.00	2.47	2.00
5.06	Are surface joints effectively sealed	7.67	6.60	6.16	8.40	9.00	7.50	6.56	7.59	7.33	4.29	7.17	7.29	3.00	5.82	6.60
5.07	Window blinds	5.00	6.00	5.25	4.80	7.50	9.00	7.00	7.00	5.25	8.22	7.93	9.00	7.50	5.25	6.00
5.08	Surfaces, fixtures and fittings in good condition	6.00	7.50	5.76	4.80	6.00	9.00	6.78	6.24	5.67	5.05	5.74	8.14	3.00	6.35	6.00
5.09	Soft furnishings covered	4.59	4.50	4.58	4.20	4.50	5.25	6.44	4.41	3.75	5.23	5.61	3.86	3.00	3.94	4.20
5.10	Curtains clean	5.81	3.00	4.03	3.75	6.00	5.25	3.96	4.06	4.13	5.29	5.22	4.29	N/A	5.12	5.25
5.11	Bed spacing	6.93	11.45	14.18	4.00	20.00	20.00	13.50	13.85	10.40	3.88	4.00	N/A	N/A	11.00	7.20
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	Bathroom conveniently accessible	4.41	4.11	6.67	3.00	3.00	3.00	4.33	6.69	5.25	5.53	9.00	7.29	3.00	7.29	3.00
5.14	Bathroom fittings easily cleaned	7.47	10.91	11.24	12.00	12.00	3.00	3.63	10.82	6.67	7.60	10.73	12.57	12.00	11.73	15.00
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	Sufficient hand wash basins	4.67	14.67	10.74	4.00	20.00	20.00	4.59	5.88	4.00	7.19	6.09	4.00	20.00	12.47	4.00
5.18	Hand wash basins intact.	3.00	3.00	3.39	3.60	3.00	3.75	3.22	3.00	3.33	3.36	3.13	3.43	3.00	3.35	3.00
5.19	Clinical hand wash basins correct size	4.67	4.40	4.00	4.00	20.00	8.00	4.00	4.71	4.00	3.81	4.70	14.86	20.00	6.82	4.00
5.20	Access to basins clear & unobstructed	4.67	4.00	5.37	4.00	4.00	4.00	4.44	6.35	4.00	6.95	5.22	7.43	4.00	6.35	4.00
5.21	Clinical hand wash basins conform	9.50	4.00	9.05	4.00	20.00	3.00	14.07	14.24	4.00	5.02	10.26	17.71	N/A	14.35	10.40
5.22	Hand wash basins have hands free taps.	7.56	12.00	7.89	4.80	12.00	20.00	5.48	6.35	5.33	6.76	4.70	8.57	N/A	7.76	8.80
5.23	Toilets have basin, soap dispenser and towels	4.00	3.00	4.00	4.00	4.00	4.00	4.59	6.46	4.00	4.00	4.00	15.43	4.00	4.00	4.00
5.24	Basin has soap, towel & alcohol gel	4.00	4.00	4.42	4.00	4.00	4.00	4.00	4.00	4.00	4.57	4.00	5.14	4.00	4.47	4.00
5.25	Alcohol hand rub is available	4.24	4.00	4.00	5.60	4.00	4.00	4.44	4.00	4.00	4.38	4.00	4.00	16.00	4.00	4.00
5.26	Alcohol gel at each bed space	4.67	4.13	4.74	4.00	4.00	5.00	4.30	6.35	4.00	8.48	4.70	5.71	4.00	5.85	4.00
5.27	Hand wash basins are located appropriately	4.89	4.00	5.26	4.00	4.00	4.00	4.00	4.94	4.00	5.00	4.00	4.00	4.00	4.94	4.00
5.28	All basin have waterproof splash back	3.33	3.00	4.26	3.00	9.00	3.00	3.00	4.41	3.33	4.79	3.91	6.00	3.00	4.41	3.00
5.29	Space available for waste bin	3.00	3.00	3.00	3.00	3.00	3.00	3.11	3.00	3.00	3.79	3.00	3.00	3.00	3.00	3.00
5.30	Basin available in the Dirty Utility/Sluice room.	4.89	3.00	6.95	4.00	20.00	20.00	11.37	14.35	7.56	5.86	4.73	4.00	4.00	14.67	4.00
5.31	Basin available in Isolation rooms.	4.00	4.00	5.78	4.00	4.00	3.00	4.62	4.00	4.00	3.82	4.00	4.00	4.00	4.00	7.20
5.32	Basin available in the Drug Preparation Area.	4.94	3.00	12.22	20.00	20.00	20.00	12.19	15.29	7.56	5.75	4.00	4.00	20.00	12.00	20.00
5.33	Basin available in the Breastfeeding room.	N/A	3.00	N/A	4.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.00	N/A
5.34	Dirty utility/sluice available.	4.89	3.00	8.63	4.00	4.00	4.00	4.00	4.00	4.00	3.71	4.00	4.00	4.00	5.60	4.00
5.35	Macerator available	4.00	3.00	4.42	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
5.36	Macerator in good working order	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
5.37	No inappropriate items stored in dirty utility.	6.67	6.34	7.68	13.60	6.00	5.00	8.74	7.53	8.00	9.24	8.70	10.86	4.00	6.40	5.00
5.38	Separate sinks provided locally where required	3.00	3.00	3.63	3.00	3.00	3.00	3.00	3.71	3.00	3.00	3.78	3.00	3.00	3.20	3.00
5.39	Commodes in good state of repair	4.00	7.62	9.41	4.00	4.00	4.00	11.52	6.82	7.00	10.90	13.09	14.86	N/A	7.11	20.00
5.40	Appropriate storage for large equipment	3.56	8.73	3.63	3.20	4.00	9.00	10.74	3.76	3.78	3.65	3.45	4.00	2.00	3.20	2.80
5.41	Appropriate storage for patients clothes	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.60	3.00	3.07	3.00	3.43	3.00	3.19	3.00
5.42	Clean/sterile equipment stored above floor level.	7.24	5.17	7.50	8.40	3.00	3.75	7.44	7.76	5.33	6.95	6.52	6.00	3.00	6.71	9.00
5.43	Clean linen stored off the floor	6.35	8.00	7.03	6.00	6.00	8.25	7.78	6.53	3.67	7.17	7.57	8.14	3.00	7.76	9.00
5.44	Dirty linen stored in a segregated area	9.41	8.57	12.11	8.80	12.00	12.00	9.63	12.24	13.78	7.90	15.13	5.14	4.00	13.88	12.00
5.45	Bedhead vacuum supplies	5.00	5.00	5.00	5.00	N/A	N/A	5.00	5.00	5.00	6.79	5.00	5.00	5.00	5.00	11.00
5.46	Waste stored in locked facility	4.00	3.93	3.68	2.00	4.00	4.00	4.00	4.00	4.00	3.37	3.13	2.57	4.00	2.47	4.00
5.47	Dispensers for aprons/gloves	5.63	3.00	5.37	6.00	6.00	5.25	5.11	6.88	3.67	7.07	5.35	6.00	9.00	5.47	7.20
5.48	Dedicated basin available in Kitchen.	4.76	3.00	7.29	3.00	9.00	3.00	6.33	7.94	4.33	3.14	3.27	3.00	9.00	7.40	3.00
5.49	Refrigerators in good repair	3.88	3.00	4.03	3.75	3.00	3.00	4.22	5.12	4.67	4.93	4.43	3.86	3.00	3.88	4.50
5.50	Refrigerator temperature recorded daily	4.00	4.00	5.71	4.00	4.00	4.00	4.00	10.00	6.67	11.71	9.22	9.14	4.00	6.12	4.00
5.51	Equipment for cleaning crockery/cutlery	3.53	3.00	3.26	5.25	3.00	12.00	8.50	8.63	9.00	5.41	3.41	3.00	3.00	6.00	9.75
5.52	Dedicated DSR available.	3.00	3.00	3.47	4.50	3.00	3.00	3.00	3.40	3.00	3.14	4.36	3.00	3.00	3.43	3.00
5.53	Equipment stored approriately	5.65	5.10	5.92	5.25	6.00	3.00	6.78	7.80	4.88	7.71	7.50	6.00	3.00	6.00	9.00
5.54	Dedicated basin available in DSR	8.94	3.00	11.26	16.00	16.00	16.00	4.89	8.00	13.00	11.71	8.36	14.29	16.00	16.00	16.00
5.55	Slop hopper available.	4.00	4.00	8.68	8.00	4.00	4.00	4.00	9.33	4.00	3.94	19.27	17.71	4.00	9.71	10.40
5.56	Heat emitters - build up of dust	7.11	7.47	8.84	8.00	8.00	12.00	7.41	7.29	7.56	5.14	11.13	4.67	12.00	10.59	6.40
5.57	Ventilation designed to current standards	10.22	7.73	5.79	4.00	4.00	12.00	12.00	7.53	8.00	7.46	9.57	14.00	12.00	10.59	8.00
5.58	Air changes	10.22	4.00	6.00	12.00	4.00	12.00	11.19	9.88	5.78	12.29	15.48	18.67	16.00	12.24	12.00

5.59	Grilles free from dust/cobwebs	7.11	4.00	7.58	4.00	12.00	3.00	3.19	11.06	7.11	7.93	12.00	14.00	12.00	10.59	12.00
5.60	Grilles cleaned regularly	4.00	12.00	4.00	4.00	12.00	3.00	3.33	12.00	11.11	8.64	16.00	14.67	12.00	12.00	12.00
5.61	Light fittings free from dust/cobwebs	7.11	4.00	4.00	4.00	8.00	12.00	12.00	9.41	4.89	10.67	11.30	9.33	12.00	8.71	8.00
5.62	Light fittings cleaned regularly	4.00	2.00	4.00	4.00	12.00	12.00	12.00	12.00	12.00	12.00	16.00	14.67	12.00	12.00	12.00
5.63	Extract system to sanitary facilities	10.22	4.00	4.00	4.00	4.00	12.00	12.00	8.00	11.11	12.00	12.00	4.67	4.00	10.59	12.00
5.64	Ventilation system cleaned regularly	10.22	18.00	4.00	4.00	12.00	12.00	12.00	12.00	11.11	4.00	16.00	14.67	12.00	12.00	12.00
5.65	Ventilation system excludes humidifiers	4.00	2.00	4.00	4.00	12.00	12.00	12.00	11.53	11.11	4.00	16.00	14.67	12.00	12.00	4.00
5.66	Extract vents clear of inlet vents	4.00	4.00	5.05	4.00	4.00	4.00	4.74	5.65	7.56	6.14	11.83	4.67	12.00	6.12	8.00
5.67	Recirculation of exhaust air	4.00	4.00	5.16	16.00	4.00	4.00	5.78	5.18	5.33	8.57	16.00	4.67	4.00	6.12	16.00
5.68	Ventilation to isolation rooms	13.75	4.00	6.42	4.00	4.00	4.00	6.22	4.00	4.00	8.57	16.00	18.67	16.00	9.65	16.00
5.69	Positioning of air intakes and air outlets	4.00	4.00	5.68	4.00	4.00	4.00	7.56	4.71	4.00	8.57	16.00	18.67	16.00	9.65	16.00
5.70	Agreed maintenance procedures implemented	13.33	16.00	15.68	16.00	16.00	16.00	16.00	16.00	16.00	16.00	12.00	18.67	16.00	16.00	16.00
5.71	Specialist vent systems installed and maintained	4.00	9.00	11.85	11.85	12.00	4.00	4.00	4.00	4.00	12.00	12.00	14.00	12.00	12.00	4.00
5.72	Lamps easily cleaned and minimal dust build up	9.00	8.93	8.18	9.00	8.00	9.00	10.78	8.88	9.00	8.93	9.00	14.00	9.00	9.00	9.00
5.73	Vacuum controlled units with overflow protection	4.00	4.00	4.00	4.00	6.00	4.00	4.00	4.00	4.00	4.00	4.00	4.67	12.00	10.59	12.00
5.74	Redundant sinks/showers identified	4.00	4.00	4.00	4.00	4.00	4.00	4.00	9.65	4.00	4.95	4.00	14.00	4.00	4.94	4.00
5.75	Flushing regime for taps and/or showers	4.00	3.00	4.00	4.00	8.00	4.00	4.15	12.00	4.00	12.00	12.00	14.00	12.00	12.00	12.00
5.76	Maintenance of water systems	10.22	3.00	4.00	4.00	12.00	12.00	12.00	11.53	4.00	12.00	12.00	14.00	12.00	12.00	12.00
5.77	Control procedures for construction works	10.22	10.00	4.00	4.00	12.00	12.00	12.00	12.00	4.00	12.00	12.00	14.00	12.00	12.00	12.00
5.78	Water storage tanks cleaned and inspected	4.00	9.00	4.00	4.00	14.00	4.00	4.00	4.00	4.00	16.00	16.00	18.67	16.00	16.00	16.00
5.79	Flow and return water temperatures	4.00	9.00	4.00	4.00	14.00	4.00	4.00	4.00	4.00	12.00	12.00	14.00	12.00	12.00	12.00
5.80	Hot water taps run at 50 degrees within one minute	4.00	9.00	4.42	4.00	8.00	4.00	4.00	5.88	4.00	8.95	6.09	14.00	12.00	10.59	4.00
5.81	Deadlegs on water systems removed	4.00	12.00	11.58	12.00	8.00	12.00	8.41	8.71	12.00	12.00	12.00	14.00	4.00	8.71	12.00
5.82	Biocide disinfection levels monitored	N/A	N/A	12.00	12.00	12.00	4.00	4.00	N/A	N/A	12.00	12.00	14.00	12.00	12.00	10.40
5.83	Cold water taps at less than 20° within two mins.	4.00	9.00	4.42	4.00	4.00	4.00	4.00	4.47	4.00	4.00	4.00	4.67	12.00	8.24	4.00
5.84	Tanked water turnover less than 24 hours	4.00	4.00	4.00	4.00	12.00	4.00	4.00	4.00	4.00	12.00	12.00	14.00	12.00	12.00	10.40
5.85	Water to high risk areas tested quarterly	4.00	3.00	11.75	11.75	12.00	4.00	4.00	4.00	4.00	8.00	12.00	14.00	12.00	12.00	12.00
5.86	Drainage system fit for purpose	10.22	12.27	4.42	4.00	12.00	12.00	8.74	10.12	12.00	12.00	12.00	14.00	12.00	12.00	12.00
5.87	Service ducts minimise pest infestation	4.00	4.00	12.00	12.00	12.00	12.00	8.74	10.12	4.00	11.05	10.96	14.00	12.00	12.00	12.00
5.88	Pest control system	4.00	4.00	12.00	12.00	12.00	12.00	12.00	12.00	4.00	12.00	12.00	4.67	12.00	12.00	12.00
5.89	Prevention of water ingress	10.22	12.00	12.00	12.00	12.00	12.00	4.30	8.71	12.00	11.62	10.96	4.67	12.00	12.00	12.00
5.90	Self resetting dampers	4.00	12.00	12.00	12.00	12.00	12.00	9.33	11.53	12.00	12.00	12.00	14.00	12.00	12.00	12.00
5.91	Maintenance of ventilation plant	10.22	4.00	12.32	12.00	12.00	4.00	4.30	12.00	12.00	12.00	12.00	14.00	12.00	12.00	12.00
5.92	Room isolation considered for maintenance	4.00	4.00	12.00	12.00	12.00	12.00	11.70	12.00	4.00	12.00	12.00	14.00	12.00	12.00	12.00
5.93	Portable fan cleaning and disinfection regime	4.00	4.00	12.00	12.00	12.00	4.00	4.00	4.00	11.11	12.00	12.00	14.00	12.00	12.00	12.00
5.94	Water dispensers and ice making machines	4.00	12.00	12.32	12.00	12.00	4.00	4.00	4.00	4.00	12.00	12.00	14.00	12.00	12.00	5.60
5.95	Bedpan washers maintained and tested	N/A	N/A	16.00	16.00	16.00	4.00	4.00	4.00	4.00	15.90	16.00	18.67	16.00	16.00	12.80
5.96	Bedpan macerators maintained	4.00	3.00	16.00	16.00	16.00	4.00	4.00	4.00	4.00	16.00	16.00	18.67	16.00	16.00	16.00
5.97	Infection Control Team included in planning	4.00	3.00	16.00	16.00	16.00	3.00	3.04	4.00	4.00	4.00	4.00	4.67	4.00	16.00	12.00
	LOW (Green)	12	28	10	13	11	19	13	8	12	15	11	12	18	11	11
	MEDIUM (Yellow)	68	51	61	59	44	47	61	62	65	50	42	40	27	42	42
	HIGH (Amber)	11	13	22	21	31	21	19	22	15	28	40	40	40	41	38
	VERY HIGH (Red)				1	6	5							3		2
	Hospital Average - Total	502.81	526.70	646.14	617.70	787.00	651.75	599.18	663.46	544.54	707.43	798.85	866.67	761.50	810.43	797.90
	Hospital Average - Average	5.53	5.72	6.95	6.57	8.55	7.08	6.44	7.21	5.92	7.61	8.59	9.42	8.65	8.62	8.58

HAI-SCRIBE Audit Results (Average) by Ward and Directorate

CLYDE
Summary of Risk Scores IRH as at 26/06/2014
Summary of Risk Scores RAH as at 24/06/2014

Scribe Ref		Inverclyde								Inverclyde				Inverclyde					Inverclyde					Inverclyde	
		Clyde M CMU	Clyde M A&E	Clyde M G North	Clyde M G South	Clyde H Centre	Clyde M J Centre CCU, HDU & ITU	Clyde M J North	Clyde M J South	Clyde S H North	Clyde S H South	Clyde S K North & Centre	Clyde K South Eyes	RAD K South Cove Unit	RAD PDRU Larkfield	RAD Larkfield Ward 1	RAD Larkfield Ward 2	RAD Larkfield Ward 3	Renal Unit						
		W&C	Medical							Surgical				RAD					RS						
5.01	Is the flooring, impervious and easily cleaned	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2						
5.02	Carpeting is not fitted	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	4	4	4						
5.03	Are the walls smooth	6	9	6	6	6	9	9	6	6	6	9	9	9	6	6	6	6	6						
5.04	Are the ceilings smooth	9	9	9	6	3	6	6	6	6	6	6	6	6	6	9	6	9	6						
5.05	Are the right angle junctions coved	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2						
5.06	Are surface joints effectively sealed	6	9	9	9	6	9	9	6	9	9	9	9	9	6	6	6	6	6						
5.07	Window blinds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	N/A	3	N/A	N/A	N/A	6						
5.08	Surfaces, fixtures and fittings in good condition	9	9	6	9	9	3	6	6	6	9	6	6	6	3	3	3	3	6						
5.09	Soft furnishings covered	6	6	3	3	N/A	3	6	3	3	6	6	3	6	3	6	6	6	3						
5.10	Curtains clean	3	6	6	6	N/A	6	9	6	3	6	9	6	6	6	6	3	6	N/A						
5.11	Bed spacing	N/A	N/A	4	4	4	12	16	12	4	8	4	N/A	4	4	4	4	4	16						
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.13	Bathroom conveniently accessible	3	N/A	3	3	9	9	6	3	3	3	6	3	3	3	3	3	3	9						
5.14	Bathroom fittings easily cleaned	4	N/A	4	3	4	16	12	12	12	4	4	4	4	4	12	12	12	4						
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.17	Sufficient hand wash basins	4	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.18	Hand wash basins intact.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
5.19	Clinical hand wash basins correct size	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4						
5.20	Access to basins clear & unobstructed	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4						
5.21	Clinical hand wash basins conform	4	4	4	3	4	4	20	16	8	4	8	4	4	4	20	20	20	20						
5.22	Hand wash basins have hands free taps.	4	4	8	8	8	4	8	8	8	8	8	8	8	4	12	12	12	4						
5.23	Toilets have basin, soap dispenser and towels	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.24	Basin has soap, towel & alcohol gel	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.25	Alcohol hand rub is available	4	N/A	4	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.26	Alcohol gel at each bed space	4	4	4	4	4	4	8	8	4	8	4	4	4	4	4	4	4	4						
5.27	Hand wash basins are located appropriately	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4						
5.28	All basin have waterproof splash back	3	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
5.29	Space available for waste bin	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
5.30	Basin available in the Dirty Utility/Sluice room.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20						
5.31	Basin available in Isolation rooms.	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.32	Basin available in the Drug Preparation Area.	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20						
5.33	Basin available in the Breastfeeding room.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.34	Dirty utility/sluice available.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20						
5.35	Macerator available	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.36	Macerator in good working order	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.37	No inappropriate items stored in dirty utility.	8	8	8	8	4	8	8	8	4	8	8	4	4	4	8	4	4	12						
5.38	Separate sinks provided locally where required	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3						
5.39	Commodes in good state of repair	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.40	Appropriate storage for large equipment	2	4	4	4	4	4	4	4	4	4	4	4	4	2	4	2	4	2						
5.41	Appropriate storage for patients clothes	3	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A						
5.42	Clean/sterile equipment stored above floor level.	3	9	6	9	N/A	9	9	9	6	9	9	3	6	3	6	9	9	9						
5.43	Clean linen stored off the floor	9	9	6	6	N/A	6	6	6	9	6	6	9	9	3	3	6	3	6						
5.44	Dirty linen stored in a segregated area	16	16	4	4	N/A	4	4	4	4	4	16	16	16	16	4	4	12	16						
5.45	Bedhead vacuum supplies	5	5	5	5	N/A	5	5	5	5	5	5	5	5	5	5	5	5	5						
5.46	Waste stored in locked facility	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.47	Dispensers for aprons/gloves	N/A	6	6	6	N/A	6	9	6	6	6	9	6	6	3	3	3	3	6						
5.48	Dedicated basin available in Kitchen.	3	9	3	9	N/A	9	3	3	3	9	3	3	3	3	3	3	3	9						
5.49	Refrigerators in good repair	3	6	3	6	N/A	3	6	3	3	6	6	3	3	3	3	3	3	3						
5.50	Refrigerator temperature recorded daily	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.51	Equipment for cleaning crockery/cutlery	3	12	3	3	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3						
5.52	Dedicated DSR available.	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A						
5.53	Equipment stored approriately	3	9	9	9	6	6	6	6	6	6	6	6	6	3	3	3	3	N/A						
5.54	Dedicated basin available in DSR	16	16	4	4	4	4	4	4	4	4	4	4	16	16	16	16	16	N/A						
5.55	Slop hopper available.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A						
5.56	Heat emitters - build up of dust	8	8	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4	8						
5.57	Ventilation designed to current standards	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.58	Air changes	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.59	Grilles free from dust/cobwebs	8	8	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4	8						
5.60	Grilles cleaned regularly	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.61	Light fittings free from dust/cobwebs	8	8	8	8	8	8	8	8	8	8	8	8	8	4	4	4	4	8						
5.62	Light fittings cleaned regularly	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.63	Extract system to sanitary facilities	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.64	Ventilation system cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.65	Ventilation system excludes humidifiers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.66	Extract vents clear of inlet vents	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.67	Recirculation of exhaust air	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.68	Ventilation to isolation rooms	16	16	16	16	16	16	16	16	16	16	16	16	16	N/A	4	4	4	N/A						
5.69	Positioning of air intakes and air outlets	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.70	Agreed maintenance procedures implemented	16	16	16	16	16	16	16	16	16	16	16	16	16	4	4	4	4	16						
5.71	Specialist vent systems installed and maintained	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	N/A	N/A	N/A	4						
5.72	Lamps easily cleaned and minimal dust build up	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9						
5.73	Vacuum controlled units with overflow protection	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.74	Redundant sinks/showers identified	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.75	Flushing regime for taps and/or showers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.76	Maintenance of water systems	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.77	Control procedures for construction works	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.78	Water storage tanks cleaned and inspected	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.79	Flow and return water temperatures	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.80	Hot water taps run at 50 degrees within one minute	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.81	Deadlegs on water systems removed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.82	Biocide disinfection levels monitored	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.83	Cold water taps at less than 20° within two mins.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.84	Tanked water turnover less than 24 hours	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.85	Water to high risk areas tested quarterly	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.86	Drainage system fit for purpose	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.87	Service ducts minimise pest infestation	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.88	Pest control system	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.89	Prevention of water ingress	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.90	Self resetting dampers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.91	Maintenance of ventilation plant	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12						
5.92	Room isolation considered for maintenance	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.93	Portable fan cleaning and disinfection regime	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.94	Water dispensers and ice making machines	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.95	Bedpan washers maintained and tested	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A						
5.96	Bedpan macerators maintained	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
5.97	Infection Control Team included in planning	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4						
	LOW (Green)	17	7	14	14	10	13	11	14	15	11	11	15	12	20	16	17	16	10						
	MEDIUM (Yellow)	57	62	64	65	58	64	65	59	63	68	67	63	65	67	69	68	68	57						
	HIGH (Amber)	13	14	12	11	11	13	13	16	12	11	12	12	13	2	3	3	4	13						
	VERY HIGH (Red)	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1	1	1	4						
	Ward Total	491	526	505	507	437	518	548	559	495	513	524	500	517	371	407	401	414	550						
	Ward Average	5.64	6.34	5.61	5.63	5.53	5.76	6.09	6.21	5.50	5.70	5.82	5.56	5.74	4.17	4.57	4.51	4.65	6.55						
	Not Applicable	7	11	4	4	15	4	4	4	4	4	4	4	4	5	5	5	5	10						
		94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94	94						

HAI-SCRIBE Audit Results (Average) by Ward

Summary of Risk Scores as at 26/06/2014 — North East

Scribe Ref		Medical 04	Medical 05	Medical 06	Medical 07/16	Medical 08	Medical 09	Medical 14/15	Medical 29	Medical 30	Medical 43	Medical 44 CCU	Medical A&E	RAD 11	RAD 17/31	RAD 18/19	Rad 20/21	Woman & Children 24	Woman & Children 33	Surgical 27	Surgical 50	Surgical 51	Surgical 52 - 53	Surgical60	Surgical 61	Surgical 62	Surgical 63	Surgical 64	Surgical HDU	Surgical ICU	Surgical Lister Ward	Regional Services 36	Regional Services 39	Regional Services 45	Regional Services 46	Regional Services 47	Regional Services 47 Annexe	Regional Services 48 HDU	Renal	Woman & Children 68	Woman & Children 69/70	Woman & Children 73	Woman & Children MBU	Woman & Children Neonatal ICU	RAD 02	RAD 03	Glasgow Royal Infirmary	Glasgow Royal - PRM	Lightburn
		Glasgow Royal								Glasgow Royal					Glasgow Royal						Glasgow Royal					Glasgow Royal						Glasgow Royal						GRI PRM			GRI PRM		Lightburn				
								Medical							RAD			W&C							Surgical									Regional Services						W&C			RAD				
5.01	Is the flooring, impervious and easily cleaned	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.05	2.00	2.00
5.02	Carpeting is not fitted	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6.95	5.60	12.00
5.03	Are the walls smooth	6	6	6	6	6	6	6	6	3	6	6	6	3	6	6	9	3	3	3	6	6	6	6	6	6	9	9	6	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	5.92	6.00	9.00
5.04	Are the ceilings smooth	9	9	9	3	3	3	9	6	3	6	6	9	3	9	9	9	3	6	3	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	9	9	6	6	9	6	6	6.08	7.80	6.00
5.05	Are the right angle junctions coved	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2.00	2.00	2.00
5.06	Are surface joints effectively sealed	9	9	9	3	3	3	6	6	6	6	6	9	6	6	6	9	3	6	6	6	6	6	6	6	6	9	6	6	6	6	6	6	6	6	6	6	6	6	9	9	9	6	9	9	9	6.16	8.40	9.00
5.07	Window blinds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6	6	6	N/A	N/A	6	9	N/A	9	9	N/A	3	3	3	3	3	3	N/A	N/A	3	N/A	3	N/A	N/A	3	3	3	3	3	9	6	9	3	3	3	9	6	5.25	4.80	7.50
5.08	Surfaces, fixtures and fittings in good condition	9	9	9	6	3	6	9	6	3	6	6	9	3	3	6	6	3	3	3	6	6	6	6	6	9	6	9	3	3	6	3	3	6	6	6	6	6	9	6	6	3	3	6	6	6	5.76	4.80	6.00
5.09	Soft furnishings covered	6	6	3	3	6	3	6	3	3	9	6	N/A	3	3	6	3	3	3	3	6	6	12	3	3	3	3	3	3	N/A	3	6	3	3	6	3	3	6	3	6	6	3	3	3	6	3	4.58	4.20	4.50
5.10	Curtains clean	3	6	3	3	3	3	6	3	3	6	3	9	3	3	9	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	3	6	6	6	6	3	6	3	6	3	3	N/A	6	6	4.03	3.75	6.00
5.11	Bed spacing	4	4	4	N/A	4	4	4	4	4	4	4	N/A	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	N/A	4	4	4	N/A	N/A	4	20	14.18	4.00	20.00
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	Bathroom conveniently accessible	9	9	9	9	9	9	9	9	9	3	3	N/A	9	9	9	9	9	9	9	3	3	3	3	3	3	3	3	9	N/A	9	9	9	9	3	3	3	3	9	3	3	3	3	N/A	3	3	6.67	3.00	3.00
5.14	Bathroom fittings easily cleaned	4	4	4	12	4	4	12	4	16	4	4	4	4	4	12	12	4	4	4	12	12	12	12	4	4	4	4	4	N/A	4	12	12	4	12	4	12	12	12	12	12	12	12	N/A	12	12	11.24	12.00	12.00
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	Sufficient hand wash basins	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	10.74	4.00	20.00
5.18	Hand wash basins intact.	3	3	3	3	3	3	3	3	3	3	3	6	3	6	3	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	6	3	3	6	3	3	3	3	3.39	3.60	3.00
5.19	Clinical hand wash basins correct size	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4.00	4.00	20.00
5.20	Access to basins clear & unobstructed	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5.37	4.00	4.00
5.21	Clinical hand wash basins conform	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	9.05	4.00	20.00
5.22	Hand wash basins have hands free taps.	8	8	8	8	4	8	8	8	4	8	4	4	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	4	4	8	8	8	8	8	8	8	8	8	4	4	8	4	4	4	12	7.89	4.80	12.00
5.23	Toilets have basin, soap dispenser and towels	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4.00	4.00	4.00
5.24	Basin has soap, towel & alcohol gel	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4.42	4.00	4.00
5.25	Alcohol hand rub is available	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	4	4	4.00	5.60	4.00
5.26	Alcohol gel at each bed space	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8	4	4	4	4	4	4	4	16	4	4	4	16	4	4	4	4	4	4	4	4.74	4.00	4.00
5.27	Hand wash basins are located appropriately	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	5.26	4.00	4.00
5.28	All basin have waterproof splash back	9	9	9	3	6	3	6	3	3	3	3	3	3	6	3	3	3	9	3	3	3	6	3	3	6	6	6	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3	3	9	9	4.26	3.00	9.00
5.29	Space available for waste bin	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3.00	3.00	3.00
5.30	Basin available in the Dirty Utility/Sluice room.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6.95	4.00	20.00
5.31	Basin available in Isolation rooms.	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	20	20	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	5.78	4.00	4.00
5.32	Basin available in the Drug Preparation Area.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	12.22	20.00	20.00
5.33	Basin available in the Breastfeeding room.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	N/A	4.00	N/A
5.34	Dirty utility/sluice available.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8.63	4.00	4.00
5.35	Macerator available	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4	N/A	4	4	4.42	4.00	4.00
5.36	Macerator in good working order	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.00	4.00	4.00
5.37	No inappropriate items stored in dirty utility.	8	8	4	8	8	8	12	8	12	16	12	12	4	4	8	12	4	8	8	12	8	8	4	4	8	4	4	4	4	4	8	4	8	8	8	8	4	16	16	12	12	16	12	8	4	7.68	13.60	6.00
5.38	Separate sinks provided locally where required	3	3	9	3	3	3	3	3	3	3	3	3	9	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3.63	3.00	3.00
5.39	Commodes in good state of repair	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	20	4	4	N/A	N/A	N/A	N/A	4	4	9.41	4.00	4.00
5.40	Appropriate storage for large equipment	4	4	4	4	4	4	4	4	4	4	4	4	2	4	2	4	4	4	4	4	2	4	4	4	4	2	4	4	2	4	2	2	4	4	4	4	4	4	4	2	4	4	2	4	4	3.63	3.20	4.00
5.41	Appropriate storage for patients clothes	3	3	3	3	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	3	3.00	3.00	3.00
5.42	Clean/sterile equipment stored above floor level.	9	6	9	9	9	9	6	9	9	9	9	9	9	9	3	6	6	9	3	9	9	9	3	9	6	6	3	6	6	3	9	9	9	6	9	9	9	9	6	9	9	9	9	3	3	7.50	8.40	3.00
5.43	Clean linen stored off the floor	6	9	6	9	9	9	3	6	6	9	6	6	9	9	9	6	6	9	6	6	6	6	9	9	9	6	6	9	6	3	6	3	12	6	6	6	3	12	6	9	3	9	3	6	6	7.03	6.00	6.00
5.44	Dirty linen stored in a segregated area	16	16	16	16	16	16	16	16	16	16	4	4	16	16	16	16	16	16	16	16	16	16	4	4	4	4	4	16	4	4	16	4	4	12	16	16	4	16	16	4	4	4	16	12	12	12.11	8.80	12.00
5.45	Bedhead vacuum supplies	5	5	5	5	N/A	N/A	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	20	5	5	5	5	5	20	5	5	5	5	5	N/A	N/A	5.00	5.00	N/A
5.46	Waste stored in locked facility	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	4	4	4	4	4	4	4	4	2	4	4	2	2	4	4	4	2	4	4	2	4	2	2	2	2	2	4	4	3.68	2.00	4.00
5.47	Dispensers for aprons/gloves	6	6	6	6	3	6	6	6	6	6	6	6	6	3	6	6	3	6	3	6	6	6	6	3	3	6	6	3	3	6	3	6	6	6	6	6	6	9	6	6	3	9	6	6	6	5.37	6.00	6.00
5.48	Dedicated basin available in Kitchen.	9	9	9	9	9	9	9	9	9	3	3	9	9	9	9	9	9	9	9	3	3	3	9	9	9	9	9	N/A	N/A	N/A	9	9	3	3	3	3	3	9	3	3	3	3	N/A	9	9	7.29	3.00	9.00
5.49	Refrigerators in good repair	6	3	3	3	9	3	6	3	3	6	6	3	3	3	3	9	3	3	3	3	3	6	3	6	3	3	3	N/A	N/A	N/A	3	3	3	6	3	3	6	3	3	3	3	6	N/A	3	3	4.03	3.75	3.00
5.50	Refrigerator temperature recorded daily	4	4	4	4	4	4	4	4	16	4	4	16	4	16	4	4	4	16	4	4	4	4	4	4	4	4	4	N/A	N/A	N/A	4	4	4	4	4	4	4	16	4	4	4	N/A	N/A	4	4	5.71	4.00	4.00
5.51	Equipment for cleaning crockery/cutlery	3	3	3	3	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	N/A	N/A	3	3	3	3	3	3	3	12	3	3	12	3	N/A	3	3	3.26	5.25	3.00
5.52	Dedicated DSR available.	3	3	9	3	3	9	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	3	3	9	3	3	3	3.47	4.50	3.00
5.53	Equipment stored approriately	6	6	9	9	6	9	9	6	6	9	9	3	6	6	6	6	6	6	6	9	9	6	3	3	3	3	3	3	3	3	3	3	9	6	6	6	6	9	N/A	3	3	9	6	6	6	5.92	5.25	6.00
5.54	Dedicated basin available in DSR	4	4	4	4	4	4	4	4	4	4	4	4	4	16	16	16	4	16	4	4	4	4	4	4	4	4	4	4	4	16	16	16	4	4	4	4	4	16	N/A	4	4	4	4	4	4	11.26	16.00	16.00
5.55	Slop hopper available.	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4	4	4	20	N/A	4	4	4	4	4	4	8.68	8.00	4.00
5.56	Heat emitters - build up of dust	8	8	8	8	12	12	12	4	4	4	12	12	12	12	12	12	8	4	4	12	12	12	12	12	12	12	12	12	12	12	4	4	12	12	12	12	12	12	8	8	8	8	8	8	8	8.84	8.00	8.00
5.57	Ventilation designed to current standards	4	4	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	12	12	12	12	12	12	12	12	8	12	12	4	4	4	4	4	4	4	12	12	12	12	12	12	4	4	5.79	4.00	4.00
5.58	Air changes	4	4	4	4	4	12	4	4	4	4	4	12	4	4	4	4	4	4	4	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4	4	4	16	12	12	12	12	12	4	4	6.00	12.00	4.00
5.59	Grilles free from dust/cobwebs	12	12	12	12	4	4	4	12	12	4	4	12	4	4	4	4	12	4	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4	4	4	12	12	12	12	12	12	12	12	7.58	4.00	12.00
5.60	Grilles cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.61	Light fittings free from dust/cobwebs	8	8	8	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8	4	4	4	12	12	12	12	12	4	4	4	4	4	4	4	4	4	4	12	12	12	12	12	12	8	8	4.00	4.00	8.00
5.62	Light fittings cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.63	Extract system to sanitary facilities	12	12	12	12	4	4	4	12	12	12	12	12	4	4	4	4	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	4	4	4	4	4	4	12	12	4.00	4.00	4.00
5.64	Ventilation system cleaned regularly	12	12	8	12	12	12	12	12	12	12	12	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.65	Ventilation system excludes humidifiers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.66	Extract vents clear of inlet vents	8	8	12	8	4	4	4	8	8	4	4	4	4	4	4	4	8	4	8	4	4	4	12	12	12	12	12	8	4	4	4	4	4	4	4	4	4	12	12	12	12	12	12	4	4	5.05	4.00	4.00
5.67	Recirculation of exhaust air	4	4	12	4	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	16	4	4	4	4	4	4	4	4	16	16	16	16	16	4	4	5.16	16.00	4.00
5.68	Ventilation to isolation rooms	4	4	12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	16	16	16	16	16	4	4	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	6.42	4.00	4.00
5.69	Positioning of air intakes and air outlets	4	4	8	4	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	16	16	4	4	4	4	4	4	4	16	4	4	4	4	4	4	4	5.68	4.00	4.00
5.70	Agreed maintenance procedures implemented	16	16	4	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	15.68	16.00	16.00
5.71	Specialist vent systems installed and maintained	12	12	4	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11.85	11.85	12.00
5.72	Lamps easily cleaned and minimal dust build up	9	9	4	9	9	9	9	8	8	8	8	8	9	9	9	9	8	8	8	8	8	8	9	9	9	9	9	3	8	8	8	8	8	8	8	8	8	9	9	9	9	9	9	8	8	8.18	9.00	8.00
5.73	Vacuum controlled units with overflow protection	12	12	9	12	4	4	4	12	12	12	12	12	4	4	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	8	4.00	4.00	6.00
5.74	Redundant sinks/showers identified	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	12	12	12	12	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4.00	4.00	4.00
5.75	Flushing regime for taps and/or showers	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4	12	4	4	12	12	12	12	12	12	12	12	4	4	4	4	4	12	4	4.00	4.00	8.00
5.76	Maintenance of water systems	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.77	Control procedures for construction works	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.78	Water storage tanks cleaned and inspected	16	16	16	16	16	16	16	16	16	16	16	4	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	4	4	16	16	16	16	16	16	16	16	16	16	16	16	16	16	12	4.00	4.00	14.00
5.79	Flow and return water temperatures	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	4	12	12	12	4	4	4	4	4	12	4	4	12	12	12	12	12	12	12	12	4	4	4	4	4	12	16	4.00	4.00	14.00
5.80	Hot water taps run at 50 degrees within one minute	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	12	4.42	4.00	8.00
5.81	Deadlegs on water systems removed	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12	4	12	12	12	12	12	12	4	11.58	12.00	8.00
5.82	Biocide disinfection levels monitored	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.83	Cold water taps at less than 20° within two mins.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4.42	4.00	4.00
5.84	Tanked water turnover less than 24 hours	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4.00	4.00	12.00
5.85	Water to high risk areas tested quarterly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	11.75	11.75	12.00
5.86	Drainage system fit for purpose	12	12	12	12	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	4	12	12	12	12	12	12	12	12	4	4	4	4	4	4	4	12	12	12	12	12	12	12	12	4.42	4.00	12.00
5.87	Service ducts minimise pest infestation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.88	Pest control system	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.89	Prevention of water ingress	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.90	Self resetting dampers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.91	Maintenance of ventilation plant	12	12	12	12	12	12	12	12	12	12	12	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.32	12.00	12.00
5.92	Room isolation considered for maintenance	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.93	Portable fan cleaning and disinfection regime	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.00	12.00	12.00
5.94	Water dispensers and ice making machines	12	12	12	12	12	12	12	12	12	12	12	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	16	16	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12.32	12.00	12.00
5.95	Bedpan washers maintained and tested	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16.00	16.00	16.00
5.96	Bedpan macerators maintained	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16.00	16.00	16.00
5.97	Infection Control Team included in planning	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16.00	16.00	16.00
	LOW (Green)	9	9	9	14	13	13	8	12	15	11	12	8	15	11	12	11	18	13	17	13	15	12	16	15	15	14	14	15	14	15	15	15	13	13	14	14	15	7	13	15	18	15	13	11	12			
	MEDIUM (Yellow)	52	52	53	45	50	49	54	50	45	52	51	48	49	50	50	49	44	48	44	45	43	45	43	45	45	45	45	39	40	45	45	46	50	48	49	48	47	34	41	43	39	40	35	50	46			
	HIGH (Amber)	31	31	30	32	28	29	30	30	33	30	30	30	28	30	30	31	30	31	29	35	35	36	34	33	33	33	33	35	27	28	31	30	30	32	30	31	30	45	35	34	35	34	35	31	31			
	VERY HIGH (Red)	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1	1	0	1	1	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1	5	0	0	0	0	0	0	3			
	Ward Total	702	702	699	685	639	654	678	664	685	672	651	657	639	715	697	697	649	704	654	696	699	710	680	678	682	677	679	678	591	622	660	666	659	671	654	662	660	903	686	690	681	681	656	678	720			
	Ward Average	7.80	7.80	7.77	7.78	7.26	7.43	7.62	7.46	7.61	7.55	7.31	8.01	7.18	7.94	7.74	7.83	7.29	7.91	7.52	7.82	7.85	7.98	7.64	7.62	7.66	7.69	7.72	7.98	7.58	7.40	7.50	7.48	7.40	7.54	7.35	7.44	7.42	10.38	8.07	7.84	7.74	8.01	8.30	7.37	7.83	#####	#####	787.00
	Not Applicable	4	4	4	6	6	6	5	5	4	5	5	12	5	4	4	5	5	5	7	5	5	5	5	5	5	6	6	9	16	10	6	5	5	5	5	5	5	7	9	6	6	9	15	2	2			

HAI-SCRIBE Audit Results (Average) by Ward

SUMMARY OF RISK SCORES NORTH WEST - AS AT 24/06/2014

Drumchapel and Gartnavel (Surgical, RAD)

Scribe Ref		RAD Arran	RAD Bute	RAD Cunbrae	RAD Kintyre	Surgical 02ab	Surgical 02c	Surgical 04ab	Surgical 05 HDU	Surgical 05c	Surgical 06ab	RAD 03a	RAD 03b	RAD 03c
		Drumchapel				Gartnavel						Gartnavel		
		RAD				Surgical						RAD		
5.01	Is the flooring, impervious and easily cleaned	9	9	9	9	4	4	4	9	4	9	9	9	9
5.02	Carpeting is not fitted	2	2	2	2	2	2	2	2	2	2	2	2	2
5.03	Are the walls smooth	6	6	6	6	9	6	6	6	6	6	9	9	9
5.04	Are the ceilings smooth	6	9	6	6	9	9	9	9	9	9	6	9	9
5.05	Are the right angle junctions coved	2	2	2	2	2	2	2	2	2	2	2	2	2
5.06	Are surface joints effectively sealed	9	6	6	9	9	9	9	9	9	9	9	9	9
5.07	Window blinds	9	N/A	9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.08	Surfaces, fixtures and fittings in good condition	9	9	9	9	6	6	6	9	9	9	9	9	9
5.09	Soft furnishings covered	3	6	6	6	6	6	9	6	3	6	6	6	3
5.10	Curtains clean	9	3	6	3	3	6	6	3	3	3	3	6	3
5.11	Bed spacing	20	20	20	20	20	20	20	20	20	20	20	20	20
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	Bathroom conveniently accessible	3	3	3	3	9	3	3	9	3	9	3	9	3
5.14	Bathroom fittings easily cleaned	3	3	3	3	3	4	3	3	3	3	3	3	3
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	Sufficient hand wash basins	20	20	20	20	4	4	4	4	4	4	4	4	4
5.18	Hand wash basins intact.	3	3	6	3	6	6	3	3	3	3	3	3	3
5.19	Clinical hand wash basins correct size	20	4	4	4	4	4	4	4	4	4	4	4	4
5.20	Access to basins clear & unobstructed	4	4	4	4	4	4	4	4	4	4	4	4	4
5.21	Clinical hand wash basins conform	3	3	3	3	20	20	20	20	20	20	20	20	20
5.22	Hand wash basins have hands free taps.	20	20	20	20	20	20	4	4	8	4	4	8	4
5.23	Toilets have basin, soap dispenser and towels	4	4	4	4	20	4	4	4	4	4	4	4	4
5.24	Basin has soap, towel & alcohol gel	4	4	4	4	4	4	4	4	4	4	4	4	4
5.25	Alcohol hand rub is available	4	4	4	4	4	4	4	4	4	4	4	4	4
5.26	Alcohol gel at each bed space	4	4	8	4	4	4	4	4	4	4	4	4	4
5.27	Hand wash basins are located appropriately	4	4	4	4	4	4	4	4	4	4	4	4	4
5.28	All basin have waterproof splash back	3	3	3	3	3	3	3	3	3	3	3	3	3
5.29	Space available for waste bin	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	Basin available in the Dirty Utility/Sluice room.	20	20	20	20	20	20	20	4	20	20	20	4	20
5.31	Basin available in Isolation rooms.	3	3	3	3	4	4	4	4	4	4	4	20	4
5.32	Basin available in the Drug Preparation Area.	20	20	20	20	20	20	20	20	20	20	4	20	20
5.33	Basin available in the Breastfeeding room.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	Dirty utility/sluice available.	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	Macerator available	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	Macerator in good working order	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	No inappropriate items stored in dirty utility.	4	8	4	4	4	8	4	4	8	8	8	8	4
5.38	Separate sinks provided locally where required	3	3	3	3	3	3	3	3	3	3	3	3	3
5.39	Commodes in good state of repair	4	4	4	4	16	16	16	16	20	4	20	20	4
5.40	Appropriate storage for large equipment	9	9	9	9	16	16	16	16	16	16	16	16	16
5.41	Appropriate storage for patients clothes	3	3	3	3	3	3	3	3	3	3	3	3	3
5.42	Clean/sterile equipment stored above floor level.	3	3	3	6	9	6	6	6	9	9	6	9	6
5.43	Clean linen stored off the floor	3	6	12	12	9	9	9	3	9	9	6	9	6
5.44	Dirty linen stored in a segregated area	12	12	12	12	12	12	16	12	12	12	12	16	12
5.45	Bedhead vacuum supplies	N/A	N/A	N/A	N/A	5	5	5	5	5	5	5	5	5
5.46	Waste stored in locked facility	4	4	4	4	4	4	4	4	4	4	4	4	4
5.47	Dispensers for aprons/gloves	3	3	9	6	6	6	6	3	3	6	3	3	6
5.48	Dedicated basin available in Kitchen.	3	3	3	3	9	3	9	9	9	9	9	9	9
5.49	Refrigerators in good repair	3	3	3	3	3	3	6	3	3	3	3	3	9
5.50	Refrigerator temperature recorded daily	4	4	4	4	4	4	4	4	4	4	4	4	4
5.51	Equipment for cleaning crockery/cutlery	12	N/A	N/A	N/A	3	3	12	3	12	12	3	3	3
5.52	Dedicated DSR available.	3	3	3	3	3	3	3	3	3	3	3	3	3
5.53	Equipment stored approriately	3	3	3	3	9	9	9	6	6	6	9	9	9
5.54	Dedicated basin available in DSR	16	16	16	16	4	4	4	4	4	4	4	4	4
5.55	Slop hopper available.	4	4	4	4	4	4	4	4	4	4	4	4	4
5.56	Heat emitters - build up of dust	12	12	12	12	8	8	8	8	12	12	8	8	8
5.57	Ventilation designed to current standards	12	12	12	12	12	12	12	12	12	12	12	12	12
5.58	Air changes	12	12	12	12	16	16	16	16	16	16	16	16	16
5.59	Grilles free from dust/cobwebs	3	3	3	3	3	3	3	3	3	3	3	3	3
5.60	Grilles cleaned regularly	3	3	3	3	3	3	3	3	3	3	3	3	3
5.61	Light fittings free from dust/cobwebs	12	12	12	12	12	12	12	12	12	12	12	12	12
5.62	Light fittings cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	Extract system to sanitary facilities	12	12	12	12	12	12	12	12	12	12	12	12	12
5.64	Ventilation system cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12
5.65	Ventilation system excludes humidifiers	12	12	12	12	12	12	12	12	12	12	12	12	12
5.66	Extract vents clear of inlet vents	4	4	4	4	4	4	4	8	4	8	4	4	4
5.67	Recirculation of exhaust air	4	4	4	4	4	4	4	16	16	16	4	4	4
5.68	Ventilation to isolation rooms	4	4	4	4	16	4	16	16	16	16	4	4	4
5.69	Positioning of air intakes and air outlets	4	4	4	4	16	16	16	4	16	4	16	16	16
5.70	Agreed maintenance procedures implemented	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	Specialist vent systems installed and maintained	4	4	4	4	4	4	4	4	4	4	4	4	4
5.72	Lamps easily cleaned and minimal dust build up	9	9	9	9	12	12	12	12	12	12	12	12	12
5.73	Vacuum controlled units with overflow protection	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	Redundant sinks/showers identified	4	4	4	4	4	4	4	4	4	4	4	4	4
5.75	Flushing regime for taps and/or showers	4	4	4	4	4	4	4	4	4	4	4	4	4
5.76	Maintenance of water systems	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	Control procedures for construction works	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	Water storage tanks cleaned and inspected	4	4	4	4	4	4	4	4	4	4	4	4	4
5.79	Flow and return water temperatures	4	4	4	4	4	4	4	4	4	4	4	4	4
5.80	Hot water taps run at 50 degrees within one minute	4	4	4	4	4	4	4	4	4	4	4	4	4
5.81	Deadlegs on water systems removed	12	12	12	12	12	12	12	12	12	12	12	12	12
5.82	Biocide disinfection levels monitored	4	4	4	4	4	4	4	4	4	4	4	4	4
5.83	Cold water taps at less than 20^{o} within two mins.	4	4	4	4	4	4	4	4	4	4	4	4	4
5.84	Tanked water turnover less than 24 hours	4	4	4	4	4	4	4	4	4	4	4	4	4
5.85	Water to high risk areas tested quarterly	4	4	4	4	4	4	4	4	4	4	4	4	4
5.86	Drainage system fit for purpose	12	12	12	12	12	12	12	12	12	12	12	12	12
5.87	Service ducts minimise pest infestation	12	12	12	12	12	12	12	12	12	12	12	12	12
5.88	Pest control system	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	Prevention of water ingress	12	12	12	12	4	4	4	4	12	4	4	4	4
5.90	Self resetting dampers	12	12	12	12	12	12	12	12	12	12	12	12	12
5.91	Maintenance of ventilation plant	4	4	4	4	4	4	4	4	4	4	4	4	4
5.92	Room isolation considered for maintenance	12	12	12	12	12	12	12	12	12	12	12	12	12
5.93	Portable fan cleaning and disinfection regime	4	4	4	4	4	4	4	4	4	4	4	4	4
5.94	Water dispensers and ice making machines	4	4	4	4	4	4	4	4	4	4	4	4	4
5.95	Bedpan washers maintained and tested	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.96	Bedpan macerators maintained	4	4	4	4	4	4	4	4	4	4	4	4	4
5.97	Infection Control Team included in planning	3	3	3	3	3	3	3	3	3	3	3	3	3
	LOW (Green)	22	21	18	19	14	14	13	17	17	14	17	15	16
	MEDIUM (Yellow)	42	43	46	44	49	51	51	49	44	50	50	51	51
	HIGH (Amber)	21	20	21	21	22	21	23	22	25	23	20	20	20
	VERY HIGH (Red)	6	5	5	5	6	5	4	3	5	4	4	5	4
	Ward Total	651	618	642	626	697	659	672	640	692	673	632	674	637
	Ward Average	7.15	6.94	7.13	7.03	7.66	7.24	7.38	7.03	7.60	7.40	6.95	7.41	7.00
	Not Applicable	3	5	4	5	3	3	3	3	3	3	3	3	3

Gartnavel (Medical, Regional Services)

Scribe Ref	Medical 06c	Medical 07c	Medical 08a	Medical 08b	Mrdical 08c	Medical Brownlee CDU	Medical HM7	Regional Services 04c	Regional Services BOC B1	Regional Services BOC B2	Regional Services BOC B3	Regional Services BOC B4	Regional Services BOC B5	Regional Services BOC B6	Regional Services BOC B7	Regional Services BOC B8	Regional Services BOC B9	Regional Services RDU
	Gartnavel							Gartnavel										
	Medical							Regional Services										
5.01	9	9	9	9	9	9	9	4	2	2	2	2	2	2	2	2	2	2
5.02	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4
5.03	6	9	9	9	9	9	9	3	3	3	3	3	3	3	3	3	3	9
5.04	6	9	9	6	6	9	3	6	6	6	6	6	6	6	6	6	6	9
5.05	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2
5.06	6	9	6	9	9	6	9	3	9	3	3	3	3	3	3	3	3	6
5.07	N/A	N/A	N/A	N/A	N/A	N/A	9	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A	N/A	N/A	9
5.08	9	6	9	9	9	9	9	3	6	3	3	3	9	3	6	3	3	9
5.09	3	3	6	3	6	6	6	9	9	9	9	9	9	9	9	9	3	6
5.10	3	6	6	3	3	3	6	3	3	6	N/A	3	6	3	3	3	3	N/A
5.11	20	20	20	20	20	20	20	4	3	3	3	3	3	3	3	3	3	N/A
5.12	N/A	N/A	na	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9
5.14	3	3	3	3	3	3	3	3	3	3	3	3	3	4	4	4	3	16
5.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20
5.18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.19	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16
5.21	20	20	20	20	20	20	20	4	4	4	4	4	4	4	4	4	4	20
5.22	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.24	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.25	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16
5.26	4	4	4	8	4	4	4	8	4	4	4	4	4	4	4	4	4	4
5.27	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.28	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.29	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	20	20	20	4	20	20	4	3	3	3	3	3	4	3	3	3	3	20
5.31	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A
5.32	20	20	20	20	20	20	3	3	3	3	3	3	3	3	3	3	3	N/A
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	8	4	12	12	12	12	12	4	12	8	8	4	8	12	12	12	12	16
5.38	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.39	4	16	20	4	20	4	4	4	4	20	4	4	20	4	20	N/A	N/A	4
5.40	16	16	16	16	16	16	16	4	2	2	4	2	2	2	4	4	4	4
5.41	3	3	3	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	N/A
5.42	9	9	6	9	9	3	6	6	6	9	6	9	6	6	9	9	9	9
5.43	9	9	6	12	9	6	6	3	3	9	9	6	9	6	9	9	9	12
5.44	12	12	12	12	12	16	4	12	4	4	4	4	4	4	4	4	4	16
5.45	5	5	5	5	5	5	N/A	5	5	5	5	5	5	5	5	5	5	N/A
5.46	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.47	6	6	6	9	9	3	6	6	3	6	3	3	3	3	3	6	6	9
5.48	9	9	9	9	9	9	9	3	3	3	3	3	3	3	3	3	3	3
5.49	3	6	3	6	6	6	3	3	3	3	3	3	6	6	3	3	3	9
5.50	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.51	12	12	12	12	12	12	3	12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	12
5.52	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.53	6	6	6	6	6	9	6	9	9	6	6	6	3	6	3	3	6	9
5.54	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4	16
5.55	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.56	12	8	12	12	12	4	8	4	4	4	4	4	4	4	4	4	4	12
5.57	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.58	16	16	16	16	16	16	16	3	3	3	3	3	3	3	3	3	3	16
5.59	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	8
5.60	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	12
5.61	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.62	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.64	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.65	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.66	8	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12
5.67	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.68	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.69	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16
5.70	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.72	12	12	12	12	12	9	12	12	9	9	9	9	9	9	9	9	9	9
5.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.75	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8
5.76	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.79	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.80	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.81	12	12	12	12	12	4	12	12	3	3	3	3	3	3	3	3	3	4
5.82	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A
5.83	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.84	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.85	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.86	12	12	12	12	12	4	12	12	4	4	4	4	4	4	4	4	4	4
5.87	12	12	12	12	12	4	12	12	4	4	4	4	4	4	4	4	4	4
5.88	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.90	12	12	12	12	12	12	12	12	4	4	4	4	4	4	4	4	4	12
5.91	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12
5.92	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4
5.93	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.94	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4
5.96	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.97	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4
LOW (Green)	15	14	14	14	14	16	16	23	26	25	24	27	24	26	25	25	26	8
MEDIUM (Yellow)	50	52	50	51	50	53	54	50	52	53	53	52	54	53	52	52	51	50
HIGH (Amber)	22	21	22	23	22	18	19	18	12	11	11	11	11	12	12	12	12	25
VERY HIGH (Red)	4	4	5	3	5	4	2	0	0	1	0	0	1	0	1	0	0	3
Ward Total	652	646	656	640	665	618	589	508	457	472	443	443	473	455	473	453	449	680
Ward Average	7.16	7.10	7.21	7.03	7.31	6.79	6.47	5.58	5.08	5.24	5.03	4.92	5.26	5.00	5.26	5.09	5.04	7.91
Not Applicable	3	3	3	3	3	3	3	3	4	4	6	4	4	3	4	5	5	8

Western Infirmary

Scribe Ref	RAD G02	Regional Services L07 Centr Ren	Regional Services L07 East Rena	Regional Services L07 East Dialy	Regional Services L07 West Ren	Medical A&E	Medical E3/4	Medical F1	Medical G03	Medical G04	Medical L09 CA	Medical L09 CCU	Medical L08 Medical	Surgical L08 Ortho	Surgical ITU	Surgical L10 East (P)	Surgical L10 West (Surgical)
	Western Infirmary					Western Infirmary											
	RAD	Regional Services				Medical								Surgical			
5.01	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.02	12	4	4	4	4	4	4	4	4	4	12	12	4	4	4	12	4
5.03	6	9	9	9	6	6	9	6	9	9	9	6	9	9	3	9	9
5.04	6	9	9	9	9	9	9	9	9	9	6	9	9	9	3	6	6
5.05	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.06	6	9	9	9	9	9	3	9	9	9	6	9	6	9	6	6	6
5.07	9	N/A	N/A	N/A	N/A	N/A	N/A	n/a	9	3	6	N/A	N/A	N/A	6	N/A	9
5.08	3	6	6	6	9	6	3	4	6	3	9	9	9	3	6	9	9
5.09	3	3	9	3	6	3	9	3	3	3	9	3	3	3	3	6	3
5.10	3	3	3	3	6	6	3	6	3	3	3	3	3	6	3	6	6
5.11	20	N/A	20	N/A	4	N/A	20	4	20	20	4	N/A	20	20	4	4	20
5.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	9	N/A	9	N/A	3	N/A	3	9	9	9	3	9	3	9	N/A	9	3
5.14	12	12	16	12	16	12	16	4	12	4	16	4	12	4	4	12	16
5.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	4	4	4	4	4	20	4	4	4	20	4	4	4	4	4	4	4
5.18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.19	4	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	4
5.20	4	4	4	4	4	16	4	4	20	4	16	4	4	4	4	4	4
5.21	20	4	20	4	20	20	4	4	20	20	20	20	20	20	2	20	4
5.22	8	12	12	12	4	4	4	4	12	8	4	4	4	4	4	4	4
5.23	4	N/A	20	N/A	20	N/A	4	4	4	4	4	4	4	4	N/A	4	4
5.24	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.25	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.26	4	8	4	8	16	4	8	4	4	4	8	8	4	4	4	8	8
5.27	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4
5.28	3	3	3	3	3	6	9	3	9	3	6	3	3	3	3	6	6
5.29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	4	20	20	20	20	4	4	4	4	4	20	20	20	20	20	20	20
5.31	4	N/A	4	N/A	4	N/A	4	4	4	4	4	4	4	4	4	4	4
5.32	4	20	20	20	20	4	4	4	4	20	20	20	20	20	20	20	20
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	4	8	8	8	8	8	8	8	12	12	8	8	8	4	4	8	4
5.38	3	3	3	3	3	3	3	3	9	9	3	3	3	3	3	3	3
5.39	20	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	20
5.40	4	4	4	4	4	4	2	4	2	4	4	4	4	4	4	4	4
5.41	3	6	6	6	3	N/A	3	3	3	3	3	3	3	3	N/A	3	3
5.42	9	9	9	9	9	9	6	6	9	9	9	3	6	6	6	9	9
5.43	6	9	9	9	6	12	3	3	9	9	6	6	6	3	3	6	6
5.44	4	12	12	12	12	12	16	12	16	16	12	12	12	12	12	12	12
5.45	5	5	5	5	5	5	N/A	5	5	5	5	5	5	5	5	5	5
5.46	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.47	6	3	9	3	9	3	9	9	9	9	3	9	6	6	6	9	9
5.48	3	9	9	9	3	9	9	3	9	9	9	9	9	9	9	9	9
5.49	6	6	6	6	9	3	3	3	6	6	6	3	6	6	6	3	3
5.50	4	16	16	16	4	16	4	4	4	4	4	4	16	16	16	N/A	16
5.51	12	3	3	3	12	12	12	3	12	12	3	12	12	12	N/A	12	3
5.52	3	3	3	3	3	3	9	3	3	3	3	3	No Access	No Access	3	3	3
5.53	9	6	6	6	6	9	9	9	9	9	6	6	No Access	No Access	9	9	9
5.54	16	4	4	4	4	4	16	4	16	16	4	4	No Access	No Access	16	4	4
5.55	20	4	4	4	4	4	20	4	20	20	4	4	No Access	No Access	20	4	4
5.56	4	8	8	8	8	12	12	4	4	4	8	8	8	8	4	8	8
5.57	4	8	8	8	8	8	12	4	4	4	12	12	8	8	4	8	8
5.58	4	12	12	12	12	12	16	4	4	4	12	12	12	12	4	12	12
5.59	8	12	12	12	12	12	12	8	8	8	12	12	12	12	12	12	12
5.60	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.61	4	12	12	12	12	12	12	8	4	4	12	12	12	12	4	12	4
5.62	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	12	4	4	4	4	8	12	12	12	12	8	8	12	12	4	4	4
5.64	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.65	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12
5.66	4	8	4	4	8	4	8	4	4	4	4	4	4	4	12	8	8
5.67	4	4	8	8	4	4	4	4	4	4	4	16	4	4	4	4	4
5.68	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.69	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4
5.70	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.72	8	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	9
5.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	4	12	12	12	12	12	12	4	4	4	12	12	12	12	4	12	12
5.75	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.76	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12
5.77	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.79	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.80	4	4	4	4	4	4	12	12	4	4	4	4	12	12	4	4	4
5.81	12	4	4	4	4	12	12	12	12	12	12	12	12	12	4	4	4
5.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.83	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	4
5.84	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.85	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.86	4	12	12	12	12	12	12	4	4	4	12	12	12	12	12	12	12
5.87	4	12	12	12	12	12	12	4	4	4	12	12	12	12	12	12	12
5.88	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	4	12	12	12	12	4	12	4	4	4	4	4	12	12	12	12	12
5.90	12	12	12	12	12	12	12	4	12	12	12	12	12	12	12	12	12
5.91	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.92	12	12	12	12	12	12	12	n/a	12	12	12	12	12	12	12	12	12
5.93	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.94	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.95	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.96	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.97	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
LOW (Green)	12	11	9	11	10	9	13	13	9	11	11	12	10	10	13	8	11
MEDIUM (Yellow)	58	51	54	51	54	48	46	65	58	58	54	51	47	47	51	56	56
HIGH (Amber)	18	23	23	23	23	27	29	12	20	18	24	24	26	25	21	23	21
VERY HIGH (Red)	4	2	5	2	4	2	2	0	5	5	3	3	4	5	3	3	4
Ward Total	615	623	704	623	674	648	687	494	682	657	668	652	664	671	595	659	666
Ward Average	6.68	7.16	7.74	7.16	7.41	7.53	7.63	5.43	7.41	7.14	7.26	7.24	7.30	7.37	6.76	7.32	7.24
Not Applicable	2	7	3	7	3	8	4	3	2	2	2	4	3	3	6	4	2

Vale of Leven, and summary by site

Scribe Ref	Critical Care Unit Ward 3	Clyde M 06	Lomond Ward	Clyde S 05	RAD 14	RAD 15	RAD F Ward	Clyde W&C CMU	Clyde M Renal Unit		Drumchapel	Gartnavel	Western Infirmary	Vale of Leven
	Vale of Leven													
	Medical			S	RAD			W&C	RS					
5.01	2	2	4	2	4	3	N/A	2	2		9.00	5.48	2.00	2.00
5.02	1	1	1	1	1	1	N/A	1	1		2.00	2.07	5.88	5.78
5.03	3	3	3	3	3	3	N/A	3	3		6.00	6.11	7.76	5.67
5.04	6	6	6	6	6	6	N/A	6	6		6.75	7.22	7.94	6.00
5.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		2.00	2.07	2.00	2.00
5.06	4	4	4	3	4	4	N/A	4	4		7.50	6.56	7.59	7.33
5.07	N/A	N/A	3	N/A	N/A	N/A	N/A	3	N/A		9.00	7.00	7.00	5.25
5.08	3	3	3	3	4	4	N/A	3	6		9.00	6.78	6.24	5.67
5.09	3	3	3	3	3	3	N/A	3	3		5.25	6.44	4.41	3.75
5.10	2	2	2	2	2	2	N/A	2	2		5.25	3.96	4.06	4.13
5.11	1	1	1	1	1	1	N/A	N/A	N/A		20.00	13.50	13.85	10.40
5.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
5.13	3	3	9	3	3	3	N/A	3	4		3.00	4.33	6.69	5.25
5.14	4	4	4	4	4	4	N/A	4	4		3.00	3.63	10.82	6.67
5.15	4	4	6	N/A	6	6	N/A	N/A	N/A		N/A	N/A	N/A	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
5.17	1	1	1	1	1	1	N/A	1	1		20.00	4.59	5.88	4.00
5.18	1	1	1	1	1	1	N/A	1	1		3.75	3.22	3.00	3.33
5.19	1	1	1	1	1	1	N/A	1	1		8.00	4.00	4.71	4.00
5.20	1	1	1	1	1	1	N/A	1	1		4.00	4.44	6.35	4.00
5.21	3	3	3	2	2	2	N/A	2	2		3.00	14.07	14.24	4.00
5.22	1	1	1	1	1	1	N/A	1	1		20.00	5.48	6.35	5.33
5.23	1	1	1	1	1	1	N/A	1	1		4.00	4.59	6.46	4.00
5.24	3	3	3	3	3	3	N/A	3	3		4.00	4.00	4.00	4.00
5.25	3	3	3	3	3	3	N/A	3	3		4.00	4.44	4.00	4.00
5.26	4	4	4	4	4	4	N/A	4	4		5.00	4.30	6.35	4.00
5.27	1	1	1	1	1	1	N/A	1	1		4.00	4.00	4.94	4.00
5.28	2	2	2	2	2	2	N/A	2	2		3.00	3.00	4.41	3.33
5.29	1	1	1	1	1	1	N/A	1	1		3.00	3.11	3.00	3.00
5.30	1	1	1	1	1	1	N/A	1	1		20.00	11.37	14.35	7.56
5.31	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1		3.00	4.62	4.00	4.00
5.32	1	1	1	1	1	1	N/A	1	1		20.00	12.19	15.29	7.56
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	N/A
5.34	1	1	1	1	1	1	N/A	1	1		4.00	4.00	4.00	4.00
5.35	1	1	1	1	1	1	N/A	1	1		4.00	4.00	4.00	4.00
5.36	4	4	2	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.37	6	6	6	6	6	6	N/A	6	6		5.00	8.74	7.53	8.00
5.38	3	3	3	3	3	3	N/A	3	3		3.00	3.00	3.71	3.00
5.39	3	3	3	3	3	3	N/A	3	3		4.00	11.52	6.82	7.00
5.40	4	4	3	4	4	4	N/A	4	4		9.00	10.74	3.76	3.78
5.41	3	3	3	3	3	3	N/A	3	3		3.00	3.00	3.60	3.00
5.42	3	3	3	3	3	3	N/A	3	3		3.75	7.44	7.76	5.33
5.43	3	3	3	3	3	3	N/A	3	3		8.25	7.78	6.53	3.67
5.44	16	16	12	16	16	16	N/A	16	16		12.00	9.63	12.24	13.78
5.45	3	3	3	10	10	10	N/A	3	N/A		N/A	5.00	5.00	5.00
5.46	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.47	3	3	3	3	3	3	N/A	3	3		5.25	5.11	6.88	3.67
5.48	3	3	3	3	3	3	N/A	3	3		3.00	6.33	7.94	4.33
5.49	3	3	3	3	3	3	N/A	3	3		3.00	4.22	5.12	4.67
5.50	3	3	3	3	3	3	N/A	3	3		4.00	4.00	10.00	6.67
5.51	3	3	3	3	3	3	N/A	12	3		12.00	8.50	8.63	9.00
5.52	3	3	3	3	3	3	N/A	3	3		3.00	3.00	3.40	3.00
5.53	3	3	3	3	16	3	N/A	3	3		3.00	6.78	7.80	4.88
5.54	2	2	2	2	2	2	N/A	2	2		16.00	4.89	8.00	13.00
5.55	3	3	3	3	3	3	N/A	3	3		4.00	4.00	9.33	4.00
5.56	12	4	3	4	12	12	N/A	3	8		12.00	7.41	7.29	7.56
5.57	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		12.00	12.00	7.53	8.00
5.58	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		12.00	11.19	9.88	5.78
5.59	4	4	4	4	4	4	N/A	4	4		3.00	3.19	11.06	7.11
5.60	4	4	4	4	4	4	N/A	4	4		3.00	3.33	12.00	11.11
5.61	4	4	4	4	4	4	N/A	4	4		12.00	12.00	9.41	4.89
5.62	12	12	12	12	12	12	N/A	12	12		12.00	12.00	12.00	12.00
5.63	4	4	16	4	16	16	N/A	14	4		12.00	12.00	8.00	11.11
5.64	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		12.00	12.00	12.00	11.11
5.65	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		12.00	12.00	11.53	11.11
5.66	3	3	3	3	3	3	N/A	3	3		4.00	4.74	5.65	7.56
5.67	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	5.78	5.18	5.33
5.68	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	6.22	4.00	4.00
5.69	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	7.56	4.71	4.00
5.70	4	4	4	4	4	4	N/A	4	4		16.00	16.00	16.00	16.00
5.71	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	4.00	4.00	4.00
5.72	9	9	9	9	9	9	N/A	9	9		9.00	10.78	8.88	9.00
5.73	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.74	4	4	4	4	4	4	N/A	4	4		4.00	4.00	9.65	4.00
5.75	1	1	1	1	1	1	N/A	1	1		4.00	4.15	12.00	4.00
5.76	4	4	4	4	4	4	N/A	4	4		12.00	12.00	11.53	4.00
5.77	4	4	4	4	4	4	N/A	4	4		12.00	12.00	12.00	4.00
5.78	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.79	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.80	10	10	10	10	10	10	N/A	10	10		4.00	4.00	5.88	4.00
5.81	12	12	12	12	12	12	N/A	12	12		12.00	8.41	8.71	12.00
5.82	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	4.00	N/A	N/A
5.83	10	10	10	10	10	10	N/A	10	10		4.00	4.00	4.47	4.00
5.84	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.85	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	4.00	4.00	4.00
5.86	8	8	8	8	8	8	N/A	8	8		12.00	8.74	10.12	12.00
5.87	4	4	4	4	4	4	N/A	4	4		12.00	8.74	10.12	4.00
5.88	4	4	4	4	4	4	N/A	4	4		12.00	12.00	12.00	4.00
5.89	9	9	12	9	N/A	N/A	N/A	N/A	9		12.00	4.30	8.71	12.00
5.90	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		12.00	9.33	11.53	12.00
5.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	4.30	12.00	12.00
5.92	4	4	4	4	4	4	N/A	4	4		12.00	11.70	12.00	4.00
5.93	9	9	9	9	9	9	N/A	9	9		4.00	4.00	4.00	11.11
5.94	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.95	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		4.00	4.00	4.00	4.00
5.96	4	4	4	4	4	4	N/A	4	4		4.00	4.00	4.00	4.00
5.97	2	2	2	2	2	2	N/A	2	2		3.00	3.04	4.00	4.00
LOW (Green)	43	42	44	42	38	40	0	42	39	330				
MEDIUM (Yellow)	29	30	27	29	29	28	0	27	32	231				
HIGH (Amber)	6	5	7	6	9	8	0	7	5	53				
VERY HIGH (Red)	0	0	0	0	0	0	0	0	0	0				
Ward Total	303	294	312	299	327	313	0	304	298					
Ward Average	3.88	3.82	4.00	3.88	4.30	4.12	N/A	4.00	3.92		651.75	599.18	663.46	544.54
Not Applicable	16	17	16	17	18	18	94	18	18					

HAI-SCRIBE Audit Results (Average) by Ward

SUMMARY OF RISK SCORES SOUTH AS AT 24/6/2014

Southern General Hospital — Surgical / Medical

Scribe Ref	Item	Surgical 01	Surgical 02	Surgical 03	Surgical 04	Surgical 05	Surgical 06	Surgical 08	Surgical 09	Surgical 10	Surgical 11	Surgical SHDU	Surgical SITU	Medical 07	Medical 20	Medical 21	Medical 22	Medical 23	Medical 25	Medical 26	Medical 52	Medical A&E	Medical CCU
5.01	Is the flooring, impervious and easily cleaned	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.02	Carpeting is not fitted	8	8	8	8	8	8	8	8	8	4	8	8	8	2	2	2	2	2	2	8	8	8
5.03	Are the walls smooth	6	9	9	9	9	9	9	9	6	6	6	6	9	3	3	3	3	3	3	3	9	3
5.04	Are the ceilings smooth	6	9	9	6	9	9	6	9	6	6	6	6	6	3	3	3	3	3	3	9	9	3
5.05	Are the right angle junctions coved	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	4	2
5.06	Are surface joints effectively sealed	6	6	6	6	6	6	3	6	3	3	6	6	9	3	3	3	3	3	3	9	9	3
5.07	Window blinds	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	9	9	6	6	N/A	3	N/A	6	9	N/A	9	9	9	N/A
5.08	Surfaces, fixtures and fittings in good condition	4	4	4	4	6	4	9	9	9	9	3	6	6	3	3	3	3	3	3	6	9	6
5.09	Soft furnishings covered	6	6	9	9	9	9	9	6	6	6	3	6	6	3	9	3	3	12	6	9	N/A	6
5.10	Curtains clean	3	3	9	6	9	9	9	6	3	6	6	3	6	6	9	6	6	9	3	9	9	3
5.11	Bed spacing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	4	3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	Bathroom conveniently accessible	9	9	9	9	9	9	3	3	9	9	3	N/A	3	9	9	9	9	3	9	3	N/A	9
5.14	Bathroom fittings easily cleaned	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	16	4	12	N/A	4
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	Sufficient hand wash basins	2	2	2	2	2	2	2	2	20	20	4	4	4	10	4	3	3	3	3	20	16	8
5.18	Hand wash basins intact.	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.19	Clinical hand wash basins correct size	4	4	4	4	4	4	4	4	3	3	4	4	4	3	3	3	3	3	3	4	4	4
5.20	Access to basins clear & unobstructed	2	2	2	2	2	2	16	16	16	4	4	4	4	16	16	16	4	4	4	4	16	4
5.21	Clinical hand wash basins conform	2	2	2	2	2	2	2	20	20	20	20	4	16	3	3	3	3	3	3	4	4	4
5.22	Hand wash basins have hands free taps.	4	4	4	4	4	4	12	12	12	4	8	4	4	8	4	4	8	8	8	8	12	4
5.23	Toilets have basin, soap dispenser and towels	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	4	N/A	4
5.24	Basin has soap, towel & alcohol gel	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.25	Alcohol hand rub is available	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4	4	4	4	8	4	4
5.26	Alcohol gel at each bed space	12	4	4	4	8	4	12	4	8	8	4	4	4	8	12	4	4	4	4	8	4	4
5.27	Hand wash basins are located appropriately	4	4	4	4	4	4	4	20	4	4	4	4	4	6	6	4	6	6	6	4	4	4
5.28	All basin have waterproof splash back	3	3	3	3	3	3	3	9	9	6	6	3	3	9	3	3	9	9	3	3	9	3
5.29	Space available for waste bin	3	9	9	9	9	9	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	Basin available in the Dirty Utility/Sluice room.	4	2	2	2	2	2	4	20	4	20	20	4	8	4	4	2	2	4	4	4	4	4
5.31	Basin available in Isolation rooms.	4	N/A	N/A	2	2	2	N/A	4	N/A	N/A	4	4	4	4	4	4	4	4	N/A	4	N/A	4
5.32	Basin available in the Drug Preparation Area.	4	4	4	4	4	4	4	4	20	20	N/A	4	20	4	4	4	4	4	4	4	N/A	4
5.33	Basin available in the Breastfeeding room.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	Dirty utility/sluice available.	2	2	2	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	Macerator available	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	Macerator in good working order	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	No inappropriate items stored in dirty utility.	8	12	12	12	8	8	4	8	12	12	8	8	12	12	8	16	4	12	8	8	16	8
5.38	Separate sinks provided locally where required	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.39	Commodes in good state of repair	20	4	4	20	16	20	20	4	4	16	4	4	20	20	4	4	16	4	4	4	N/A	20
5.40	Appropriate storage for large equipment	4	4	4	4	4	4	4	2	2	2	4	4	4	4	4	4	2	4	4	2	4	4
5.41	Appropriate storage for patients clothes	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	3
5.42	Clean/sterile equipment stored above floor level.	9	6	3	9	6	3	3	9	6	6	6	9	9	9	6	6	9	9	3	6	9	9
5.43	Clean linen stored off the floor	9	9	9	9	12	6	3	6	12	12	9	9	9	9	3	12	12	3	3	3	6	12
5.44	Dirty linen stored in a segregated area	12	12	4	4	4	4	4	4	16	16	4	4	16	16	4	4	4	4	16	4	16	4
5.45	Bedhead vacuum supplies	5	5	5	5	5	20	5	20	20	20	5	5	20	5	5	5	5	5	5	5	5	5
5.46	Waste stored in locked facility	4	4	4	4	4	4	4	4	4	4	4	4	4	4	2	2	4	2	4	2	4	4
5.47	Dispensers for aprons/gloves	9	9	6	6	9	9	9	3	9	9	9	6	9	6	6	9	9	9	6	6	6	9
5.48	Dedicated basin available in Kitchen.	3	3	3	3	3	3	3	3	3	3	3	9	3	3	3	3	3	3	3	3	3	3
5.49	Refrigerators in good repair	3	3	6	6	3	3	6	6	9	9	3	6	6	3	6	9	9	3	9	9	9	3
5.50	Refrigerator temperature recorded daily	16	16	16	16	16	16	16	16	4	4	4	4	16	16	16	16	16	16	4	4	16	4
5.51	Equipment for cleaning crockery/cutlery	3	3	3	3	12	12	12	3	3	3	3	12	12	12	3	3	12	3	12	3	3	12
5.52	Dedicated DSR available.	3	3	3	3	3	3	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.53	Equipment stored approriately	9	9	9	9	9	9	9	9	9	9	6	6	9	9	9	9	9	9	9	6	6	9
5.54	Dedicated basin available in DSR	16	16	16	16	16	16	16	16	16	16	16	16	4	4	16	16	16	4	16	4	16	16
5.55	Slop hopper available.	4	4	4	4	4	4	2	n/a	4	4	n/a	4	4	4	4	4	4	4	4	4	n/a	4
5.56	Heat emitters - build up of dust	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	8	4	4
5.57	Ventilation designed to current standards	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6		6	6
5.58	Air changes	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.59	Grilles free from dust/cobwebs	12	12	12	12	12	12	12	12	12	12	12	12	12	3	3	3	3	3	3	12	12	12
5.60	Grilles cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	3	3	3	3	3	33	12	12	12
5.61	Light fittings free from dust/cobwebs	12	12	12	12	12	12	8	8	12	8	12	12	8	12	12	12	12	8	12	8	12	12
5.62	Light fittings cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	Extract system to sanitary facilities	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.64	Ventilation system cleaned regularly	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.65	Ventilation system excludes humidifiers	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.66	Extract vents clear of inlet vents	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	8	4	4
5.67	Recirculation of exhaust air	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4
5.68	Ventilation to isolation rooms	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4
5.69	Positioning of air intakes and air outlets	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	4	4
5.70	Agreed maintenance procedures implemented	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	Specialist vent systems installed and maintained	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.72	Lamps easily cleaned and minimal dust build up	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	8	9	9
5.73	Vacuum controlled units with overflow protection	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	Redundant sinks/showers identified	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	4	4
5.75	Flushing regime for taps and/or showers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.76	Maintenance of water systems	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	Control procedures for construction works	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	Water storage tanks cleaned and inspected	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.79	Flow and return water temperatures	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.80	Hot water taps run at 50 degrees within one minute	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	12	12
5.81	Deadlegs on water systems removed	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.82	Biocide disinfection levels monitored	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.83	Cold water taps at less than 20° within two mins.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.84	Tanked water turnover less than 24 hours	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.85	Water to high risk areas tested quarterly	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5.86	Drainage system fit for purpose	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.87	Service ducts minimise pest infestation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	12	12
5.88	Pest control system	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	Prevention of water ingress	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.90	Self resetting dampers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.91	Maintenance of ventilation plant	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.92	Room isolation considered for maintenance	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.93	Portable fan cleaning and disinfection regime	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.94	Water dispensers and ice making machines	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.95	Bedpan washers maintained and tested	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	12	16	16	16	16
5.96	Bedpan macerators maintained	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.97	Infection Control Team included in planning	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
	LOW (Green)	16	16	15	15	15	15	15	12	13	12	13	9	11	20	21	23	21	23	21	15	7	14
	MEDIUM (Yellow)	42	42	44	44	43	43	41	43	40	42	47	51	46	38	40	38	40	39	40	45	41	46
	HIGH (Amber)	32	32	31	31	33	31	33	31	34	32	29	30	32	33	30	31	31	29	29	30	35	31
	VERY HIGH (Red)	1	0	0	1	0	2	1	4	4	5	2	0	3	1	0	0	0	0	0	1	0	1
	Ward Total	692	675	673	691	704	711	708	750	775	775	684	663	751	707	652	659	674	637	672	708	711	684
	Ward Average	7.60	7.50	7.48	7.59	7.74	7.81	7.87	8.33	8.52	8.52	7.52	7.37	8.16	7.68	7.16	7.16	7.33	7.00	7.38	7.70	8.57	7.43
	Not Applicable	3	4	4	3	3	3	4	4	3	3	3	4	2	2	3	2	2	3	3	2	11	2

Southern General Hospital — RAD / Regional Services

Scribe Ref	RAD 51	RAD 53	RAD 54	RAD 55	RAD 56	RAD 57	RAD PDRU	Reg Services 24	Reg Services 60	Reg Services 61	Reg Services 62	Reg Services 63	Reg Services 64	Reg Services 65	Reg Services 66	Reg Services 66A	Reg Services 67	Reg Services 68	Reg Services Eden Hall HDU	Reg Services Phillipshill
5.01	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.02	12	12	12	12	12	20	12	2	3	2	2	2	2	2	2	2	4	4	12	2
5.03	9	6	6	6	6	9	3	3	3	3	3	3	3	3	2	3	3	3	3	3
5.04	9	9	6	6	6	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.05	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	3	3
5.06	6	3	3	3	3	9	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.07	9	9	9	9	9	9	N/A	N/A	N/A	9	9	9	9	9	N/A	N/A	9	6	N/A	N/A
5.08	6	9	6	6	6	6	3	3	3	3	3	3	3	3	3	3	6	3	9	9
5.09	3	3	3	6	3	6	3	3	N/A	N/A	3	3	3	3	3	3	6	3	3	3
5.10	9	6	3	9	6	3	3	6	6	3	3	3	3	3	3	3	3	3	3	3
5.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	4	N/A	N/A	N/A	4	4
5.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	9	3	3	3	3	3	3	3	3	N/A	3	3	3	3	9	3	3	3	N/A	3
5.14	12	4	4	16	12	16	4	12	4	4	12	12	16	16	4	4	16	4	16	16
5.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	20	20	20	20	20	4	4	3	3	3	3	3	3	3	3	3	3	3	3	20
5.18	3	3	3	3	6	3	3	3	3	3	3	6	3	3	3	6	3	3	3	6
5.19	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	16	3
5.20	4	4	4	4	4	4	4	16	4	20	4	4	4	4	16	16	4	4	4	4
5.21	4	4	4	4	4	4	4	3	3	3	3	3	3	3	3	3	3	3	3	3
5.22	8	8	4	8	8	4	8	4	8	4	8	8	12	8	4	12	4	4	8	8
5.23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.24	12	4	4	4	4	4	4	4	4	4	4	4	4	4	12	12	4	4	4	4
5.25	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.26	4	8	4	4	12	16	8	16	4	4	16	16	16	16	16	16	16	16	8	8
5.27	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4
5.28	3	3	3	3	3	9	3	3	3	9	6	3	3	3	3	3	9	9	9	3
5.29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	4	4	4	4	4	4	4	4	20	20	2	2	2	2	4	4	4	4	4	20
5.31	4	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4
5.32	4	4	4	4	4	4	2	4	4	4	2	2	2	2	4	4	4	4	20	20
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	12	8	12	8	8	4	12	12	8	8	8	8	8	8	8	8	4	8	12	8
5.38	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.39	20	16	20	20	16	16	4	20	4	4	4	20	4	4	4	4	16	4	N/A	4
5.40	4	4	4	2	4	4	4	4	4	4	2	4	4	4	N/A	N/A	4	4	4	4
5.41	3	6	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.42	6	3	9	9	6	9	9	9	9	9	6	6	6	6	N/A	3	9	6	9	6
5.43	3	3	6	3	6	9	9	3	6	6	9	6	3	9	N/A	9	9	9	6	3
5.44	4	4	4	4	4	4	4	16	12	12	4	16	12	12	N/A	4	4	12	12	4
5.45	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5.46	2	2	2	2	4	4	4	4	4	4	2	2	2	2	N/A	2	4	4	4	4
5.47	6	3	6	6	6	9	6	3	6	3	6	9	9	6	3	9	9	9	6	9
5.48	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.49	3	3	3	3	9	3	6	3	3	3	3	3	3	3	3	3	3	6	6	6
5.50	16	4	16	16	16	16	4	16	4	4	16	16	16	4	4	4	16	16	4	16
5.51	3	3	3	3	3	3	3	3	3	3	3	12	12	3	N/A	3	3	3	3	3
5.52	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.53	6	3	3	3	6	9	6	6	6	6	6	9	9	9	9	9	9	6	9	9
5.54	4	4	4	4	4	16	16	4	16	16	4	16	4	4	4	4	16	16	16	16
5.55	4	4	4	4	4	4	4	4	4	4	n/a	n/a	n/a	n/a	n/a	n/a	4	4	4	4
5.56	8	12	8	8	5	4	5	5	4	4	4	4	4	4	4	4	4	4	5	5
5.57	8	8	8	8	12	8	12	12	8	8	8	8	8	8	8	8	8	8	12	12
5.58	12	12	12	12	12	12	12	12	12	12	12	16	12	12	16	16	12	12	12	12
5.59	12	12	12	12	12	12	12	3	3	3	3	3	3	3	3	3	3	3	3	3
5.60	12	12	12	12	12	12	12	3	3	3	3	3	3	3	3	3	3	3	3	3
5.61	8	8	8	8	12	12	12	12	8	8	12	12	12	8	12	12	8	12	12	12
5.62	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.64	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.65	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.66	8	8	8	8	4	12	4	4	8	8	12	12	8	9	12	12	9	12	4	4
5.67	16	16	16	16	4	16	4	4	16	16	16	16	16	16	16	16	16	16	4	4
5.68	16	16	16	16	4	16	4	4	16	16	16	16	16	16	16	16	16	16	4	4
5.69	16	16	16	16	4	16	4	4	16	16	16	16	16	16	16	16	16	16	4	4
5.70	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.72	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	4	12	4	4	4	12	4	4	4	4	4	4	12	4	4	12	4	4	4	4
5.75	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.76	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.79	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.80	4	4	4	4	12	4	12	12	4	4	4	4	4	4	4	4	4	4	12	12
5.81	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.82	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.83	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.84	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.85	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
5.86	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.87	4	4	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.88	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	12	12	12	4	12	4	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.90	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.91	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.92	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.93	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.94	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.95	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.96	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.97	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
LOW (Green)	14	18	17	17	12	12	18	25	22	22	27	25	27	27	23	25	20	21	18	21
MEDIUM (Yellow)	43	41	42	43	45	43	41	32	37	37	32	30	29	34	30	30	40	38	38	38
HIGH (Amber)	33	32	31	30	34	36	32	33	29	29	32	35	35	30	32	34	32	33	33	30
VERY HIGH (Red)	2	1	2	2	1	1	0	1	1	3	0	1	0	0	0	0	0	0	1	3
Ward Total	743	705	706	714	713	769	654	668	655	696	662	720	690	657	637	674	707	690	694	705
Ward Average	8.08	7.66	7.67	7.76	7.75	8.36	7.19	7.34	7.36	7.65	7.27	7.91	7.58	7.22	7.49	7.57	7.68	7.50	7.71	7.66
Not Applicable	2	2	2	2	2	2	3	3	5	3	3	3	3	3	9	5	2	2	4	2

Victoria Infirmary — Surgical / Medical

Scribe Ref	Surgical 01	Surgical 02	Surgical 04	Surgical 05	Surgical 08	Surgical 09	Surgical 16	Surgical B	Surgical ITU & CCU	Surgical D	Surgical HDU	Medical 03	Medical 06	Medical 07	Medical 10	Medical 12a - MAU	Medical 14	Medical 15	Medical 17	Medical 20	Medical A	Medical A&E	Medical C2
5.01	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.02	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	4	20	4	4	4	4
5.03	6	6	6	6	6	6	6	6	6	9	9	6	6	9	9	6	6	6	9	9	6	6	6
5.04	6	6	6	6	6	6	9	6	6	6	6	6	6	6	6	6	6	6	6	9	6	9	3
5.05	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
5.06	6	6	9	9	9	6	9	9	6	6	9	9	9	3	6	6	6	6	6	9	9	6	6
5.07	N/A	9	N/A	N/A	9	9	9	9	N/A	9	N/A	N/A	N/A	9	6	9	9	9	9	N/A	3	3	N/A
5.08	3	6	3	6	6	3	3	9	6	3	6	6	6	6	6	6	6	6	9	9	6	9	3
5.09	6	6	9	3	9	6	6	6	3	6	3	9	3	3	3	3	6	6	3	6	6	6	12
5.10	3	3	6	6	6	3	6	3	6	6	6	12	6	3	3	3	6	3	6	3	3	9	9
5.11	N/A	N/A	N/A	N/A	nn	N/A	N/A	N/A	4	N/A	4	N/A	nn	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	N/A
5.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	9	9	9	9	9	9	9	9	9	9	N/A	9	9	9	9	9	9	9	9	9	9	N/A	N/A
5.14	12	12	12	12	12	16	12	12	4	12	4	12	4	12	12	12	12	12	4	12	12	N/A	12
5.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	4	4	4	4	20	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4	20
5.18	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	6	3	3	3	3
5.19	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20
5.20	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	16	4
5.21	4	4	4	4	4	4	4	20	4	20	4	20	4	20	4	4	20	4	20	20	20	4	20
5.22	4	4	4	4	4	4	4	8	4	4	4	4	4	8	4	4	4	4	8	8	4	4	4
5.23	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4
5.24	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.25	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.26	4	4	8	4	12	4	4	4	4	4	4	4	4	4	4	4	4	8	4	4	4	4	4
5.27	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.28	6	3	3	3	3	6	3	3	3	3	3	3	3	3	6	3	6	3	9	6	3	3	3
5.29	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	4	4	4	20
5.31	N/A	N/A	4	4	4	4	4	4	4	4	4	N/A	4	4	4	N/A	4	4	4	4	4	N/A	N/A
5.32	4	4	4	4	4	4	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A	N/A
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.35	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.36	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	8	12	12	8	4	12	8	16	4	8	4	4	8	8	4	4	12	4	12	12	8	12	16
5.38	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9	3	3	9	9
5.39	4	16	16	20	16	4	16	4	16	16	4	16	16	20	16	16	20	20	4	4	4	N/A	20
5.40	4	2	4	4	4	4	4	4	2	4	4	2	4	2	4	4	2	4	2	4	4	N/A	4
5.41	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	N/A
5.42	6	3	6	6	9	6	6	9	6	6	6	9	9	6	6	9	3	6	6	9	6	6	6
5.43	3	9	9	6	9	6	9	6	9	3	9	9	9	9	12	9	3	3	6	9	9	6	12
5.44	4	16	16	12	16	16	16	16	12	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.45	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
5.46	2	4	2	2	2	2	4	4	2	2	2	4	4	2	4	4	2	4	4	4	4	4	4
5.47	6	6	6	3	6	6	6	9	3	6	3	6	6	6	6	3	6	6	6	3	3	3	9
5.48	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	9	N/A
5.49	6	6	3	3	3	3	6	3	3	3	3	6	3	3	6	3	3	6	6	3	6	6	9
5.50	16	4	16	4	16	16	4	4	4	16	4	4	4	4	16	4	4	4	16	4	16	16	16
5.51	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	N/A	12
5.52	3	3	3	3	3	3	9	9	3	3	3	3	3	3	3	N/A	9	9	9	3	3	3	3
5.53	9	9	9	6	6	6	9	9	6	6	9	6	6	6	6	N/A	9	9	9	9	9	6	6
5.54	4	4	4	4	4	4	16	16	4	16	4	4	4	4	4	N/A	16	16	16	4	4	16	16
5.55	20	20	20	20	20	20	20	20	20	4	20	20	20	20	20	N/A	20	20	20	20	20	20	20
5.56	12	4	8	12	12	8	12	12	12	12	8	12	12	12	12	12	12	12	12	12	12	12	12
5.57	8	8	8	8	8	8	12	12	8	12	8	8	8	8	8	8	12	12	12	12	12	12	8
5.58	12	12	16	16	16	16	16	16	16	16	16	16	16	12	16	16	16	16	16	16	16	16	16
5.59	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.60	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.61	8	12	12	12	12	12	12	8	12	12	12	12	12	8	12	12	12	12	8	12	12	12	12
5.62	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.63	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.64	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.65	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.66	12	12	12	12	12	12	12	12	12	12	12	12	12	8	12	12	12	12	12	12	12	12	12
5.67	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.68	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.69	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.70	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.71	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.72	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5.73	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.74	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.75	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.76	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.79	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.80	4	4	4	4	4	12	12	4	4	4	4	12	4	12	4	4	4	12	4	4	4	4	12
5.81	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.82	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.83	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.84	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.85	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.86	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.87	12	12	12	12	4	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12
5.88	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	12	12	12	12	12	12	12	12	4	12	4	12	12	12	12	12	4	12	12	12	12	12	12
5.90	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.91	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.92	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.93	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.94	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.95	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.96	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.97	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
LOW (Green)	13	13	13	14	12	13	10	10	15	14	14	11	12	16	11	13	13	11	8	12	13	8	8
MEDIUM (Yellow)	40	39	38	38	39	39	40	39	40	37	43	36	41	37	40	36	37	39	40	39	38	33	28
HIGH (Amber)	36	38	39	37	39	39	41	40	36	40	33	40	37	36	40	38	39	40	39	39	39	41	44
VERY HIGH (Red)	1	1	1	2	2	1	1	2	1	1	1	3	1	3	1	0	3	2	4	2	2	1	6
Ward Total	736	760	785	757	805	778	813	823	735	786	717	813	760	784	785	727	805	805	855	800	791	771	880
Ward Average	8.18	8.35	8.63	8.32	8.66	8.46	8.84	9.04	7.99	8.54	7.88	9.03	8.26	8.52	8.53	8.36	8.75	8.75	9.40	8.70	8.60	9.29	10.23
Not Applicable	4	3	3	3	1	2	2	3	2	2	3	4	2	2	2	7	2	2	3	2	2	11	8

Victoria Infirmary MHU (RAD) / Mearnskirk (RAD) and hospital summary

Scribe Ref	RAD Cathkinview	RAD Lomondview	RAD North 1	RAD North 2	RAD North 3	RAD South 1	RAD South 3	RAD Lanrig	RAD Millbrae	Southern General Hospital	Victoria Infirmary	Victoria Infirmary - MHU	Mearnskirk
5.01	2	2	2	2	2	2	2	2	2	2.00	2.00	2.00	2.00
5.02	16	4	12	4	4	4	4	16	16	6.40	5.04	6.86	16.00
5.03	6	6	9	6	9	9	9	6	6	5.19	6.78	7.71	6.00
5.04	9	9	6	6	6	6	9	3	3	5.21	6.26	7.29	3.00
5.05	4	2	4	4	4	4	2	4	4	2.10	2.09	3.43	4.00
5.06	9	6	6	6	9	6	9	3	3	4.29	7.17	7.29	3.00
5.07	9	N/A	N/A	N/A	N/A	N/A	N/A	9	6	8.22	7.93	9.00	7.50
5.08	9	6	9	9	6	9	9	3	3	5.05	5.74	8.14	3.00
5.09	3	3	6	3	3	6	3	3	3	5.23	5.61	3.86	3.00
5.10	6	6	3	3	6	3	3	N/A	N/A	5.29	5.22	4.29	N/A
5.11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.88	4.00	N/A	N/A
5.12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	3	3	9	9	9	9	9	3	3	5.53	9.00	7.29	3.00
5.14	12	4	12	16	16	16	12	12	12	7.60	10.73	12.57	12.00
5.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	4	4	4	4	4	4	4	20	20	7.19	6.09	4.00	20.00
5.18	3	3	6	3	3	3	3	3	3	3.36	3.13	3.43	3.00
5.19	20	4	16	16	16	16	16	20	20	3.81	4.70	14.86	20.00
5.20	16	16	4	4	4	4	4	4	4	6.95	5.22	7.43	4.00
5.21	20	4	20	20	20	20	20	N/A	N/A	5.02	10.26	17.71	N/A
5.22	12	8	8	8	8	8	8	N/A	N/A	6.76	4.70	8.57	N/A
5.23	4	4	20	20	20	20	20	4	4	4.00	4.00	15.43	4.00
5.24	4	4	4	12	4	4	4	4	4	4.57	4.00	5.14	4.00
5.25	4	4	4	4	4	4	4	16	16	4.38	4.00	4.00	16.00
5.26	8	4	8	8	4	4	4	4	4	8.48	4.70	5.71	4.00
5.27	4	4	4	4	4	4	4	4	4	5.00	4.00	4.00	4.00
5.28	3	3	6	6	9	9	6	3	3	4.79	3.91	6.00	3.00
5.29	3	3	3	3	3	3	3	3	3	3.79	3.00	3.00	3.00
5.30	4	4	4	4	4	4	4	4	4	5.86	4.73	4.00	4.00
5.31	4	4	4	4	4	4	4	4	4	3.82	4.00	4.00	4.00
5.32	4	4	4	4	4	4	4	20	20	5.75	4.00	4.00	20.00
5.33	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.34	4	4	4	4	4	4	4	4	4	3.71	4.00	4.00	4.00
5.35	4	4	4	4	4	4	4	4	4	4.00	4.00	4.00	4.00
5.36	4	4	4	4	4	4	4	4	4	4.00	4.00	4.00	4.00
5.37	16	8	16	12	8	8	8	4	4	9.24	8.70	10.86	4.00
5.38	3	3	3	3	3	3	3	3	3	3.00	3.78	3.00	3.00
5.39	20	4	20	4	20	16	20	N/A	N/A	10.90	13.09	14.86	N/A
5.40	4	4	4	4	4	4	4	2	2	3.65	3.45	4.00	2.00
5.41	3	6	3	3	3	3	3	3	3	3.07	3.00	3.43	3.00
5.42	6	6	6	6	6	6	6	3	3	6.95	6.52	6.00	3.00
5.43	9	6	9	9	9	6	9	3	3	7.17	7.57	8.14	3.00
5.44	4	4	12	4	4	4	4	4	4	7.90	15.13	5.14	4.00
5.45	5	5	5	5	5	5	5	5	5	6.79	5.00	5.00	5.00
5.46	4	4	2	2	2	2	2	4	4	3.37	3.13	2.57	4.00
5.47	6	6	9	3	6	6	6	9	9	7.07	5.35	6.00	9.00
5.48	3	3	3	3	3	3	3	9	9	3.14	3.27	3.00	9.00
5.49	3	3	6	3	3	3	6	3	3	4.93	4.43	3.86	3.00
5.50	4	4	16	4	16	4	16	4	4	11.71	9.22	9.14	4.00
5.51	3	3	3	3	3	3	3	3	3	5.41	3.41	3.00	3.00
5.52	3	3	3	3	3	3	3	3	3	3.14	4.36	3.00	3.00
5.53	6	6	6	6	6	6	6	3	3	7.71	7.50	6.00	3.00
5.54	16	4	16	16	16	16	16	16	16	11.71	8.36	14.29	16.00
5.55	20	4	20	20	20	20	20	4	4	3.94	19.27	17.71	4.00
5.56	4	4	4	4	4	4	4	12	12	5.14	11.13	4.67	12.00
5.57	12	12	12	12	12	12	12	12	12	7.46	9.57	14.00	12.00
5.58	16	16	16	16	16	16	16	16	16	12.29	15.48	18.67	16.00
5.59	12	12	12	12	12	12	12	12	12	7.93	12.00	14.00	12.00
5.60	16	12	12	12	12	12	12	12	12	8.64	16.00	14.67	12.00
5.61	8	8	8	8	8	8	8	12	12	10.67	11.30	9.33	12.00
5.62	16	12	12	12	12	12	12	12	12	12.00	16.00	14.67	12.00
5.63	4	4	4	4	4	4	4	4	4	12.00	12.00	4.67	4.00
5.64	16	12	12	12	12	12	12	12	12	4.00	16.00	14.67	12.00
5.65	16	12	12	12	12	12	12	12	12	4.00	16.00	14.67	12.00
5.66	4	4	4	4	4	4	4	12	12	6.14	11.83	4.67	12.00
5.67	4	4	4	4	4	4	4	4	4	8.57	16.00	4.67	4.00
5.68	16	16	16	16	16	16	16	16	16	8.57	16.00	18.67	16.00
5.69	16	16	16	16	16	16	16	16	16	8.57	16.00	18.67	16.00
5.70	16	16	16	16	16	16	16	16	16	16.00	12.00	18.67	16.00
5.71	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.72	12	12	12	12	12	12	12	9	9	8.93	9.00	14.00	9.00
5.73	4	4	4	4	4	4	4	12	12	4.00	4.00	4.67	12.00
5.74	12	12	12	12	12	12	12	4	4	4.95	4.00	14.00	4.00
5.75	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.76	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.77	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.78	16	16	16	16	16	16	16	16	16	16.00	16.00	18.67	16.00
5.79	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.80	12	12	12	12	12	12	12	12	12	8.95	6.09	14.00	12.00
5.81	12	12	12	12	12	12	12	4	4	12.00	12.00	14.00	4.00
5.82	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.83	4	4	4	4	4	4	4	12	12	4.00	4.00	4.67	12.00
5.84	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.85	12	12	12	12	12	12	12	12	12	8.00	12.00	14.00	12.00
5.86	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.87	12	12	12	12	12	12	12	12	12	11.05	10.96	14.00	12.00
5.88	4	4	4	4	4	4	4	12	12	12.00	12.00	4.67	12.00
5.89	4	4	4	4	4	4	4	12	12	11.62	10.96	4.67	12.00
5.90	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.91	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.92	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.93	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.94	12	12	12	12	12	12	12	12	12	12.00	12.00	14.00	12.00
5.95	16	16	16	16	16	16	16	16	16	15.90	16.00	18.67	16.00
5.96	16	16	16	16	16	16	16	16	16	16.00	16.00	18.67	16.00
5.97	4	4	4	4	4	4	4	4	4	4.00	4.00	4.67	4.00
LOW (Green)	12	12	9	13	11	11	12	18	18				
MEDIUM (Yellow)	38	46	39	38	40	41	39	27	27				
HIGH (Amber)	38	33	39	37	36	36	36	40	40				
VERY HIGH (Red)	4	0	4	3	4	3	4	3	3				
Ward Total	827	682	827	773	797	778	794	763	760				
Ward Average	8.99	7.49	9.09	8.49	8.76	8.55	8.73	8.67	8.64	707.43	798.85	866.67	761.50
Not Applicable	2	3	3	3	3	3	3	6	6				

HAI-SCRIBE Audit Results (Average) by Ward

SUMMARY OF RISK SCORES YORKHILL
AS AT 24/6/2014

Scribe Ref		Yorkhill																Southern General Hospital				
		Woman & Children 2b	Woman & Children 03a	Woman & Children 03b	Woman & Children 04a	Woman & Children 04b	Woman & Children 05a	Woman & Children 06a	Woman & Children 06b	Woman & Children 07a	Woman & Children 07b	Woman & Children A&E & Short	Woman & Children Neonatal Inte	Woman & Children Paediatric HI	Woman & Children Paediatric IC	Woman & Children Schiehallion	West Wing	North Wing	Woman & Children 47	Woman & Children 48	Woman & Children 49	Woman & Children 50	Woman & Children SCBU
		Woman & Children																Woman & Children				
5.01	Is the flooring, impervious and easily cleaned	2	2	2	2	2	2	2	2	4	2	2	2	2	2	2	2	2	2	2	2	2
5.02	Carpeting is not fitted	4	4	4	4	4	4	4	12	4	4	4	4	4	4	12	16	16	20	20	20	20	4
5.03	Are the walls smooth	3	6	6	6	6	6	3	6	3	6	6	3	3	3	6	6	6	9	9	6	6	9
5.04	Are the ceilings smooth	6	6	6	6	6	6	6	6	6	9	9	3	6	6	6	6	6	9	9	9	9	6
5.05	Are the right angle junctions coved	2	2	2	2	2	2	2	2	2	4	2	4	2	2	2	4	4	2	2	2	2	2
5.06	Are surface joints effectively sealed	6	6	6	6	6	6	3	6	6	6	6	6	6	6	6	6	6	6	6	6	9	6
5.07	Window blinds	3	9	9	N/A	6	N/A	6	3	N/A	3	N/A	3	3	6	3	9	N/A	9	9	3	3	6
5.08	Surfaces, fixtures and fittings in good condition	3	9	3	6	6	6	3	9	9	9	6	9	3	3	6	9	9	6	6	3	3	12
5.09	Soft furnishings covered	3	6	3	3	3	3	3	6	3	3	6	3	N/A	3	3	9	3	6	3	3	3	6
5.10	Curtains clean	3	3	3	6	3	3	6	3	6	3	6	12	3	3	3	12	9	6	6	3	6	N/A
5.11	Bed spacing	20	4	4	20	4	20	20	4	4	20	4	20	4	4	N/A	4	20	4	4	4	4	20
5.12	Sufficient single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.13	Bathroom conveniently accessible	3	9	3	9	9	9	3	9	9	9	9	N/A	N/A	N/A	3	9	9	3	3	3	3	N/A
5.14	Bathroom fittings easily cleaned	4	12	4	12	12	16	4	16	12	12	12	16	N/A	N/A	12	16	16	16	16	12	16	N/A
5.15	Sufficient en-suite single rooms	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.16	Sufficient Isolation Suites	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5.17	Sufficient hand wash basins	4	20	20	20	20	20	4	20	20	20	4	4	4	4	4	4	20	4	4	4	4	4
5.18	Hand wash basins intact.	3	3	3	3	3	3	3	3	6	6	3	3	3	3	3	3	3	3	3	3	3	3
5.19	Clinical hand wash basins correct size	4	4	4	16	16	16	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.20	Access to basins clear & unobstructed	4	16	4	4	4	4	4	16	4	20	4	4	4	4	4	4	4	4	4	4	4	4
5.21	Clinical hand wash basins conform	4	20	20	20	20	4	4	20	20	20	20	20	4	4	4	20	20	20	20	4	4	4
5.22	Hand wash basins have hands free taps.	4	4	12	12	12	8	4	8	4	12	8	4	4	4	8	12	12	12	12	8	8	4
5.23	Toilets have basin, soap dispenser and towels	N/A	4	N/A	4	4	4	4	4	4	4	4	N/A	N/A	4	4	4	4	4	4	4	4	N/A
5.24	Basin has soap, towel & alcohol gel	4	4	4	4	4	4	4	4	4	4	4	12	4	4	4	4	4	4	4	4	4	4
5.25	Alcohol hand rub is available	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.26	Alcohol gel at each bed space	4	4	4	4	4	4	N/A	4	N/A	N/A	4	4	N/A	4	4	16	16	4	4	4	4	4
5.27	Hand wash basins are located appropriately	4	4	4	4	4	4	4	4	4	20	4	4	4	4	4	4	4	4	4	4	4	4
5.28	All basin have waterproof splash back	3	3	3	3	3	3	3	6	6	6	3	6	3	3	3	9	9	3	3	3	3	3
5.29	Space available for waste bin	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
5.30	Basin available in the Dirty Utility/Sluice room.	N/A	20	N/A	20	20	20	4	20	20	20	20	20	4	4	20	4	4	4	4	4	4	N/A
5.31	Basin available in Isolation rooms.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	20	4	4	4
5.32	Basin available in the Drug Preparation Area.	4	20	N/A	N/A	20	20	4	20	20	20	N/A	4	4	4	20	4	4	20	20	20	20	20
5.33	Basin available in the Breastfeeding room.	4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4	N/A	N/A	N/A	N/A	N/A	N/A
5.34	Dirty utility/sluice available.	N/A	4	N/A	4	4	16	4	16	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A
5.35	Macerator available	N/A	4	N/A	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	N/A
5.36	Macerator in good working order	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
5.37	No inappropriate items stored in dirty utility.	N/A	4	N/A	8	4	4	8	4	8	4	4	16	4	4	8	4	12	4	8	4	4	N/A
5.38	Separate sinks provided locally where required	N/A	3	N/A	3	3	3	3	3	3	3	3	6	3	3	3	3	3	3	3	3	3	N/A
5.39	Commodes in good state of repair	N/A	4	N/A	20	16	4	N/A	N/A	4	N/A	4	N/A	4	4	4	N/A	N/A	N/A	N/A	20	20	N/A
5.40	Appropriate storage for large equipment	2	4	2	4	4	4	4	4	4	4	2	2	2	2	4	N/A	N/A	2	2	4	4	2
5.41	Appropriate storage for patients clothes	3	3	6	3	3	3	3	3	3	3	N/A	3	3	3	3	3	3	3	3	3	3	N/A
5.42	Clean/sterile equipment stored above floor level.	9	9	9	6	6	6	9	6	6	6	6	6	6	6	6	6	6	9	9	9	9	9
5.43	Clean linen stored off the floor	9	3	6	12	6	12	9	12	9	9	9	9	6	6	3	6	6	9	9	9	9	9
5.44	Dirty linen stored in a segregated area	16	16	16	16	16	16	16	16	16	16	16	4	16	16	16	4	4	12	12	12	12	12
5.45	Bedhead vacuum supplies	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	N/A	20	20	5	5	5
5.46	Waste stored in locked facility	2	4	2	2	2	2	2	2	2	2	2	4	2	2	2	4	4	4	4	4	4	4
5.47	Dispensers for aprons/gloves	3	3	3	9	9	6	3	6	6	6	3	9	3	3	3	9	9	9	6	6	6	9
5.48	Dedicated basin available in Kitchen.	9	9	9	9	9	9	3	9	9	3	9	9	N/A	N/A	9	3	3	3	3	3	3	N/A
5.49	Refrigerators in good repair	3	6	3	3	3	9	3	3	3	6	6	3	3	3	3	3	3	3	3	6	6	N/A
5.50	Refrigerator temperature recorded daily	4	16	4	4	4	16	4	4	4	4	16	4	4	4	4	4	4	4	4	4	4	N/A
5.51	Equipment for cleaning crockery/cutlery	3	3	3	12	3	12	3	12	3	3	12	N/A	N/A	N/A	3	N/A	N/A	12	3	12	12	N/A
5.52	Dedicated DSR available.	3	No Access		3	3	3	N/A	3	3	3	3	9	3	3	3	3	3	3	3	3	3	3
5.53	Equipment stored appriately	9	No Access		3	3	3	N/A	3	9	9	3	6	9	9	6	6	6	9	9	9	9	9
5.54	Dedicated basin available in DSR	16	No Access		16	16	16	N/A	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.55	Slop hopper available.	20	No Access		4	4	4	N/A	4	4	4	20	20	4	4	4	20	20	4	4	20	20	4
5.56	Heat emitters - build up of dust	12	12	12	12	12	12	12	12	12	12	12	4	4	4	12	12	12	4	8	8	8	4
5.57	Ventilation designed to current standards	12	12	12	12	12	12	12	12	12	12	12	4	4	4	12	12	12	8	8	8	8	8
5.58	Air changes	16	12	12	16	16	12	16	12	12	16	12	4	4	4	12	16	16	12	12	12	12	12
5.59	Grilles free from dust/cobwebs	12	12	12	12	12	12	12	12	12	12	12	4	4	4	12	12	12	12	12	12	12	12
5.60	Grilles cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.61	Light fittings free from dust/cobwebs	12	8	8	12	12	8	12	4	4	8	12	4	4	4	12	12	12	8	8	8	8	8
5.62	Light fittings cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.63	Extract system to sanitary facilities	12	12	12	12	12	12	12	12	12	12	12	4	4	4	12	12	12	12	12	12	12	12
5.64	Ventilation system cleaned regularly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.65	Ventilation system excludes humidifiers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4
5.66	Extract vents clear of inlet vents	4	4	4	8	4	4	8	4	4	8	8	4	4	4	8	12	12	8	8	8	8	8
5.67	Recirculation of exhaust air	4	4	4	4	4	4	4	4	4	4	4	4	4	4	16	16	16	16	16	16	16	16
5.68	Ventilation to isolation rooms	16	4	4	16	4	4	16	4	4	16	16	4	4	4	16	16	16	16	16	16	16	16
5.69	Positioning of air intakes and air outlets	16	4	4	16	4	4	16	4	4	16	16	4	4	4	16	16	16	16	16	16	16	16
5.70	Agreed maintenance procedures implemented	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.71	Specialist vent systems installed and maintained	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	4
5.72	Lamps easily cleaned and minimal dust build up	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
5.73	Vacuum controlled units with overflow protection	12	12	4	12	12	12	12	4	4	12	12	12	12	12	12	12	12	12	12	12	12	12
5.74	Redundant sinks/showers identified	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	12	12	4	4	4	4	4
5.75	Flushing regime for taps and/or showers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.76	Maintenance of water systems	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.77	Control procedures for construction works	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.78	Water storage tanks cleaned and inspected	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.79	Flow and return water temperatures	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.80	Hot water taps run at 50 degrees within one minute	12	12	12	12	12	4	12	4	4	12	12	12	12	12	12	12	12	4	4	4	4	4
5.81	Deadlegs on water systems removed	4	12	12	4	4	12	4	12	12	4	12	12	12	4	4	12	12	12	12	12	12	12
5.82	Biocide disinfection levels monitored	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4
5.83	Cold water taps at less than 20° within two mins	12	4	4	12	12	4	12	4	4	12	4	12	12	12	12	4	4	4	4	4	4	4
5.84	Tanked water turnover less than 24 hours	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4
5.85	Water to high risk areas tested quarterly	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.86	Drainage system fit for purpose	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.87	Service ducts minimise pest infestation	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.88	Pest control system	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.89	Prevention of water ingress	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.90	Self resetting dampers	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.91	Maintenance of ventilation plant	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.92	Room isolation considered for maintenance	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.93	Portable fan cleaning and disinfection regime	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
5.94	Water dispensers and ice making machines	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	4	4	4	4	12
5.95	Bedpan washers maintained and tested	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	12	12	12	12	16
5.96	Bedpan macerators maintained	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16
5.97	Infection Control Team included in planning	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	16	12	12	12	12	12
	LOW (Green)	18	12	14	12	14	12	17	12	11	10	10	10	16	16	17	8	9	12	14	14	13	7
	MEDIUM (Yellow)	28	35	30	30	34	35	31	35	41	34	35	41	38	41	31	35	29	40	38	40	41	36
	HIGH (Amber)	39	38	35	44	41	41	38	41	35	40	42	35	32	31	42	46	46	36	35	35	35	33
	VERY HIGH (Red)	2	4	2	5	4	4	1	4	4	7	3	4	0	0	2	2	4	4	5	4	4	2
	Ward Total	740	786	677	866	822	830	714	828	771	878	819	765	627	629	791	855	868	797	806	782	792	681
	Ward Average	8.51	8.45	7.96	9.52	8.84	9.02	8.21	9.00	8.47	9.65	9.10	8.50	7.29	7.15	8.60	9.40	9.86	8.66	8.76	8.41	8.52	8.73
	Not Applicable	7	1	9	3	1	2	7	2	3	3	4	4	8	6	2	3	6	2	2	1	1	16

Yorkhill	Southern General
2.12	2.00
6.35	16.80
4.94	7.80
6.18	8.40
2.47	2.00
5.82	6.60
5.25	6.00
6.35	6.00
3.94	4.20
5.12	5.25
11.00	7.20
N/A	N/A
7.29	3.00
11.73	15.00
N/A	N/A
N/A	N/A
12.47	4.00
3.35	3.00
6.82	4.00
6.35	4.00
14.35	10.40
7.76	8.80
4.00	4.00
4.47	4.00
4.00	4.00
5.85	4.00
4.94	4.00
4.41	3.00
3.00	3.00
14.67	4.00
4.00	7.20
12.00	20.00
4.00	N/A
5.60	4.00
4.00	4.00
4.00	4.00
6.40	5.00
3.20	3.00
7.11	20.00
3.20	2.80
3.19	3.00
6.71	9.00
7.76	9.00
13.88	12.00
5.00	11.00
2.47	4.00
5.47	7.20
7.40	3.00
3.88	4.50
6.12	4.00
6.00	9.75
3.43	3.00
6.00	9.00
16.00	16.00
9.71	10.40
10.59	6.40
10.59	8.00
12.24	12.00
10.59	12.00
12.00	12.00
8.71	8.00
12.00	12.00
10.59	12.00
12.00	12.00
12.00	4.00
6.12	8.00
6.12	16.00
9.65	16.00
9.65	16.00
16.00	16.00
12.00	4.00
9.00	9.00
10.59	12.00
4.94	4.00
12.00	12.00
12.00	12.00
12.00	12.00
16.00	16.00
12.00	12.00
10.59	4.00
8.71	12.00
12.00	10.40
8.24	4.00
12.00	10.40
12.00	12.00
12.00	12.00
12.00	12.00
12.00	12.00
12.00	12.00
12.00	12.00
12.00	12.00
12.00	12.00
12.00	5.60
16.00	12.80
16.00	16.00
16.00	12.00
810.43	797.90

A52714092

Acute Services Division

Operational Management Group

10th July 2014

Interim Director Facilities

HAI Related Issues

Members are asked:

- To note the attached paper in respect of built environment / SPE Audits and support the development of an alternative resource to complete the audits.
- To agree that the infection control resource which currently provides this audit mechanism continues to do so until alternative mechanisms are identified.
- To note the Risk Assessment Tool pilot proposal for non-compliance tool in RAH and IRH with role at Board wide by 31st March 2015.
- To note the HAI Scribe June 2014 update and the need for annual updates.
- To agree a multidisciplinary approach to HAI Scribe updates on an annual basis.

The content of this paper describes three distinct strands of work which are inter-related:

- The built environment component of the Safe Patient Environment (SPE) removal and potential alternatives to protect NHSGG&C corporately.
- Risk Assessment of non-compliant components of the built environment.(SPE) removal and potential alternatives to protect NHSGG&C corporately.
- The annual update of HAI Scribe and resultant actions.

Built – environment / SPE audit

The review of the built environment question set within the SPE Audit Tool was instigated by infection control in an attempt to redeploy resources to clinical issues which are seen as higher priority. This matter has been discussed at the AICC.
Currently within the SPE audits completed by the Infection Control Team there is a section headed “Environmental”. This comprises of fifteen questions which examine the cleanliness and condition of the built environment.

An analysis has been completed by Infection Control of the various tools in use for monitoring the environment. These include the Facilities Monitoring Tool (FMT) and the SICPS Compliance Monitoring Tool.

This has identified that there are a number of questions not covered in the FMT or SICPS Compliance Monitoring Tool. These questions relate to the built environment compliance with national building notes.
The SICPS Compliance Monitoring Tool is at present collated manually whilst the FMT (a NHS Scotland tool) is collated electronically as is the SPE audit.

In order to try to address the shortfall on the questions infection control have approached HFS to ascertain if they would support the development of widening the FMT audit tool to produce an electronic format.

To date a cost has been produced to take this forward but no funding has been forthcoming through the national bidding process for HAI monies by HFS. (Indicative costs are stand alone NHSGG&C £201k over 3 years with year 1 £159k. NRAC Allocation if national £124k over 3 years with year 1 £198.5k)

In addition to these monies the Board will require to support training, IT etc therefore there are other costs to be considered.
In addition to the actual collation of data the matter of resource to physically complete annual audits needs to be considered. This is currently completed by Infection Control staff with the appropriate skills base to asses the position against national standards. Either SCNs or Domestic Supervisors would

require to complete this task based on current arrangements. Neither group has the resource or expertise to take on this role.

Consideration should therefore be given to adopting a model which can support the built environment auditing mechanism for SPE and HAI Scribe purposes along with the resources to continue to provide this level of support corporately in terms of risk management .

Risk Assessment of non-compliance

The estate of NHSGG&C is variable in terms of age and condition, even once demitting sites have been exited.

There will therefore continue to be a number of areas which will not comply with the most up to date guidance on the built environment at any time.

In order to safeguard the organisation a risk assessment tool has been developed which describes the issue, the risk attached to it and the mitigation strategy to allow the area to continue to function clinically. This document will be completed by the General Manager for Facilities in the area and the SCN and the Infection Control Nurse for the area. It will be retained in the Facilities folder with the Cleaning Compliance Checklist which is signed off daily by the nurse in charge and Facilities.

In many cases the risk assessments will be generic in nature due to the commonality of issues in buildings (as a result of age or guidance changes).

At the current time it is proposed that a trial of the document is rolled out on the RAH site during August with modifications being made and role out to IRH in September.

The risk assessments will then be rolled out Board wide to all retained estate areas by 31st March 2015.

HAI Scribe

HAI Scribe requires regular annual reviews to be completed that are made available to the appropriate management group of the healthcare facility.

Contained within Appendix 1 is the updated HAI Scribe Audit Results (Average) by Hospital Summary.

New Stobhill Hospital and New Victoria Hospital ward areas require to be assessed and input. Costs are being determined for this exercise.

The summary position for the Acute Division of the Board at June 2014 reports a favourable move since the last formal report in July 2011 of:

A reduction of 7 Reds and 17 Ambers An increase set of 37 Yellow (medium)

This excludes numbers deducted for Stobhill Hospital closure and Blawarthill closure.

Estates and Facilities have been unable to update all of the HAI Scribe Audit Results since this is out with the scope of the Directorate (bed spacing, alcohol gel availability etc.)
It is therefore important that the Division identifies a multidisciplinary approach to updating HAI Scribe on an annual basis.

HAI Scribe guidance recommends that infection control are also involved in the upkeep of HAI Scribe data and SPE audits formula capital should be allocated to address Red and Amber scores, where access or other mitigating factors are identified the Risk Assessment documents described in this paper should be put in place.

The Facilities Directorate have developed summary documents with cost estimates attached to all items scoring in the Amber or Red categories.

Estimated cost to address all Red and Amber Scores = £6,000,000.

This assumes that all Red and Amber scores would be addressed and not risk managed, which NHSGG&C currently does on numerous sites.

From: Martin, Fiona
To: Kane, Mary Anne; McFadden, Jim; Gallacher, Alan; Pace, David; Green, John; Wallace, Stephen
Subject: Compliance Manager - Water
Date: 10 July 2014 09:22:38
Attachments: Person Spec - Compliance Manager (Water).docm
Draft Job Description - Compliance Project Officer - B7 - April"14 (2).doc

---

Please see attached draft Job Description and Person Specification for Compliance Manager post, sent on behalf of Don Cleaver.

Regards,

[redacted]

NHS Greater Glasgow and Clyde

PERSON SPECIFICATION FORM

Job Title:- **Compliance Manager (Water)**

Department:- **Facilities/Estates**

Qualifications	Essential (√)	Desirable (√)
Qualifeid to degree level in a relevent subject, ie. Engineering, Chemistry/Physics/Building Services P901 Legionella Management & Control of Building Hot and Cold Water Services	X	
Competent IT user with a working knowledge of MDS Office (ie.Word, Excel) and ACad	x	
Membership of a recognised Professional Institute eg. IOP; MI.Mech.ET		X

Experience	Essential (√)	Desirable (√)
3 years relevant experience	X	
Able to demonstrate an appropriate working knowledge of commercial/domestic water storage and distribution systems in public buildings Able to demonstrate an appropriate level of experience gained in the management and supervision in 'Safe Water Storage and Distribution Systems' - ACOP L8, HTM 04-01	X	X
Experience in carrying out Legionella Risk Assessments to comply with HSE Legislation. Experience in the design of water storage and distribution systems. An appropriate level of experience in the field of mechanical engineering building servicces/water management, preparing specifications and tender documentation. Able to demonstrate and appropriate level of experience working as a qualified mechanical building services engineer or water services/water quality surveyor covering a large number and type of buildings, preferably of a Local	X	

Authority/Health Care, non housing in nature.		

Behavioural Competencies	Essential (√)	Desirable (√)
Ability to work on own initiative	X	
Ability to prioritise competing demands	X	
Ability to communicate complex issues to non technical staff	X	
Willing to learn new skills and to update current knowledge to CPD	X	

Other	Essential (√)	Desirable (√)
Ability to work in a multi disciplinary environment	X	
Clean Driving License	X	

Draft Job Description

JOB IDENTIFICATION
Job Title: Compliance Manager (Water Safety)
Responsible to:
Department: Facilities
Directorate: Facilities

2. JOB PURPOSE

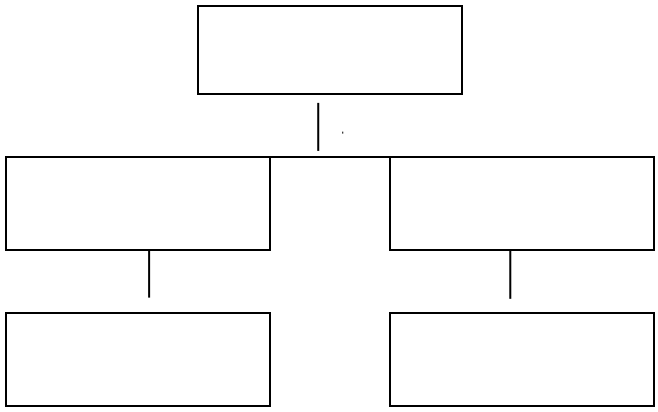
The post holder will act as Compliance Manager (Water Safety), responsible, within statutory, mandatory guidelines, budgetary & resource limitations. The post is to essentially to ensure and protect the safety Patients, Staff & Visitors from the harmful affects of Water borne bacteria in water systems.
To comply with SHTM 04-01 & addendum , ACOP L8 – 'Control of Legionella Bacteria in Water Systems' Legislation.& BS8580
To achieve best value in all related activities and to disseminate safety information, provide support and advice to the full range of staff involved in the provision of a compliant and safe Water system throughout GG&C premises.

3. ROLE OF DEPARTMENT

The Department is responsible for the delivery of a facilities and operational maintenance service within NHS Greater Glasgow and Clyde.

4. ORGANISATIONAL POSITION

Insert the appropriate organisation chart for the role here – see sample job description



5. (a) Key Objectives

.
To ensure that all water systems on site/sites are fully compliant with all aspects Water Safety legislation:

- Health Technical Memorandum SHTM 04-01 & addendum
- HSE Approved Code of Practice and Guidance 'L8'
- HE HSG274 Parts 1,2 & 3

BS8580 Water Quality
BS 7592 Sampling for Legionella Bacteria in Water systems :Code of practice
Control of Substances Hazardous to Health Regulations 2002

- Management of Health and Safety at Work Regulations 1999
- To ensure effective communication at all times with Responsible person/s regarding all aspects of the Water Systems risk management programme.
- To ensure effective communication with all staff involved in the Water Systems risk management programme, thus affecting full execution of any written scheme of precautions necessary to minimise the risk of Legionella/Pseudomonas proliferation in the areas under their control.
- To ensure that all staff have the correct levels of competence and training suitable for their appointed
- roles in the risk management programme.

- To select and assess service providers, who have the correct level of training and competence to be able to undertake the roles contracted to them and ensures compliance with GG&C Water Policies.
- The Compliance Manager (Water Safety) should have a detailed understanding of the service provider's commitments as detailed in the Legionella Control Associations code of practice.

6. MAIN TASKS, DUTIES AND RESPONSIBILITIES

- To implement and maintain a safety management system/hazard management database, to enable the 'Management and Control of Legionella Bacteria in Water'.
- Assist the Sector Estates Manager / others with the implementation of HTM 04-01 L8 etc
- Ensure that the aims and objectives of NHSGG&C policies are met and to promote and prove clear direction in relation to Water Management
- Carry out Legionella risk assessments/produce survey reports.
- Conduct Legionella audits of contractors' works.
- Liaise with contractors to ensure remedial works are carried out to comply with current Legionella/associated health safety legislation.
- Update/maintain information into the NHSGG&C hazard management database.
- Assist in the production/on-going update of the NHSGG&C Asset Management database.
- Provide regular reports in relation to the delivery of' Water Safety Management'.
- Assist in the procurement process of term maintenance contract for systems and plant item service and replacement, including cleaning/chlorination and water testing.
- Monitor/maintain Water Systems contracts procured by the organisation with particular attention to the value for money and efficacy of the agreement.
- To provide support/advice to staff involved in the provision of safe Water Systems
- To ensure that surveys are undertaken in compliance with the Statutory Regulations and requirements of the NHSGG&C's contract documentation...
- To promote positive lines of communication between all involved to ensure information is accurate and timely.
- Assist in the monitoring of contractor performance/provide periodic reports.
- To provide assistance to Estates Managers and Officers in implementing the Legionella remediation process.
- Survey buildings as directed by the Appointed Person with reference to the Legionella risk assessment/ recommendations, with the aim of implementing remediation measures.
- To assist the Estates staff in the preparation of specifications, estimates and contract documentation to facilitate the procurement/issuing of works orders for remedial works.
- To assist the Estates staff in the supervision of remedial works projects
- To undertake duties commensurate with the grades and in accordance with the purpose and accountabilities of the post.
- To carry out health and safety responsibilities in accordance within GG&Cs Health & Safety Policy /Policies document.
- To undertake such other duties and responsibilities commensurate with the grade, as may be reasonably required or as a mutually agreed development opportunity.

7a. EQUIPMENT AND MACHINERY

- General office equipment such as telephones, fax and answer phone machines, photocopiers and laminators.
- Personal Computers and printers. Good IT skills required.
- The post holder has to have the ability to set up and operate a range of tools and instruments used for measurement, testing and calibration.

7b. SYSTEMS

- Written, verbal IT
- Microsoft Office, including Word for reports, Excel for project spreadsheets, etc)
- Building Management System for monitoring and control of plant and environmental conditions.
- Legionella Register to comply with legal requirements.
- Potable Water Condition Register to comply with legal requirements.

- Technical Information Support Database.
- Training programmes and records, both on-line and manual for legal compliance and PDP.

8. DECISIONS AND JUDGEMENTS

The post holder will require to make decisions/judgments sometimes in a pressurised environment but must be able to make a clear decision based on knowledge and experience.

9. COMMUNICATIONS AND RELATIONSHIPS

- The post-holder requires to have well-developed written & oral communication skills, to allow clear & concise communications to take place with all levels of hospital staff & external bodies, such as contractors.
- Good tact & diplomacy skills are required, particularly when dealing with sensitive information concerning patients and staff.
- The post-holder is required to develop a close & productive working relationship with Estates Staff, both senior & subordinate in post.
- The post-holder will participate in forums such as departmental meetings, & core briefings, motivate & persuade subordinate staff when required & identify & organise training as required.
- The post holder must utilise extensive negotiating skills in various circumstances with Estates staff, medical staff and external contractors etc. to ensure the provision of an effective and efficient maintenance of Water Systems in NHSGGC health care premises.
- Emotional Demands
- Emotionally demanding aspects of the job include pressures on times to meet conflicting demands of the post, pressures when arranging shut-downs of core services, in particular time and procedural pressures from clinical & non-clinical staff, working both within & out with normal working hours in emergency situations, having to concentrate for prolonged and intense periods of time when dealing with unforeseen service disruptions & being constantly aware of limitations on resources & time when executing both day to day & extraordinary tasks.
- The degree of complexity involved in the post holders duties means that operational incidents which are unpredictable or have serious consequences requires a high degree of concentration and the ability to make decisions quickly and to deal with them and be confident in the decision taken.
- Mental Demands
- Short time scales and competing demands during preparation of tender documentation and provision of information to external design teams/contractors. Planning and coordination of interruptions to life critical services whilst ensuring that back-up facilities are in place to minimise the disruption to the patient care.

10. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB

PHYSICAL
Physical demands include:

- Crawling through confined spaces & ducts wearing personal protective equipment, adding to the discomfort as the wearer can become extremely hot & uncomfortable depending on the prevailing environmental conditions occasionally.
- Climbing ladders & scaffolds, both internally and externally, sometimes in uncomfortable environmental conditions and in inclement weather – occasionally.
- Working and carrying out tasks in cramped & confined spaces, such as attics & plant-rooms – occasionally
-

Normal day to day physical demands include:

- Walking – long distances between buildings, locations etc., occasionally
- Standing – sometimes for prolonged periods, at plant, at site meetings etc.
- Climbing – stairs between and within departments, occasionally
- Sitting – at desk, in front of PC sometimes for prolonged periods.

11. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

- Ensuring compliance with the competing requirements of a wide range of legislation and codes of practice whilst balancing finite financial and human resources.
- To engender good working relationships with colleagues to ensure that all involved in the provision of the service are working in cohesively
- Reacting quickly to emergencies and unplanned events

12, KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB

Qualifications

- Qualified to degree level in a related subject .(Engineering/Chemistry/Physics/Building Services)
- P901 Legionella Management & Control of Building Hot and Cold Water Services

Experience & Knowledge

- 3 years relevant experience
- Ability to demonstrate working knowledge of commercial/domestic water storage and distribution systems in public buildings
- An appropriate level of experience gained in the management and supervision in 'Safe Water Storage and Distribution Systems' – ACOP L8; HTM04-01
- Experience in carrying out legionella risk assessments to comply with HSE regulations.
- Experience in the design of water storage and distribution systems.
- Experience in the field of mechanical engineering building services/water management, preparing specifications and tender documentation.
- Experience of working as a qualified mechanical services engineer or water services/water quality surveyor covering a wide range of buildings, preferably Local Authority/Health Care, non-housing nature.

From:	Hirst, Allyson
To:	Carnie, Frank; Connelly, Karen; Craig, Carol; David Hall; Forsyth, Graham; Frew, Shiona; Gallacher, Stephen; Forsyth, Graham; Greig, Mark; Griffin, Heather; Hirst, Allyson; Loudon, David; Macleod, Mairi; McAllister, Mark; McCluskey, Fiona; McColl, Eleanor; McDerment, Hugh; McGarrity, John; Moir, Peter; Powrie, Ian; Smith, Alastair; Stewart, Robert; Wrath, Frances
Subject:	Risk Register
Date:	11 July 2014 12:11:04
Attachments:	Project Risk Register v2 - June 2014.xls

Dear All

As per discussions at the project team meeting today can you please review the risk register (attached for ease of reference) and forward any comments/amendments to Peter Moir by Monday (14th July) - midday - so that it can be updated

Thank you

Allyson Hirst
PA to the Project Director
New South Glasgow Hospital Development
Construction Offices
Hardgate Road
Govan
G51 4SX

Tele - [redacted]

NHS Greater Glasgow and Clyde *Project Risk*

Risk is the chance of something happening which will cause harm or detriment to the organisation, staff or patients.

Risk is assessed in terms of likelihood of an event occurring and the severity of its impact upon the organisation, staff or patients.

NHS Greater Glasgow and Clyde has adopted, as standard, a "1 - 5" scoring system which enables the risks to be prioritised. This is illustrated in the following table.

Likelihood (L)		Consequence (C)		Risk (LxC) = Priority		
Almost certain	5	Extreme	5	20 - 25	=	Priority 1 = VERY HIGH
Likely	4	Major	4	12 - 19	=	Priority 2 = HIGH
Possible	3	Moderate	3	6 - 11	=	Priority 3 = MEDIUM
Unlikely	2	Minor	2	1 - 5	=	Priority 4 = LOW
Rare	1	Negligible	1			

NHS Greater Glasgow and Clyde

Project Risk Register

Completed by New South Glasgow Hospitals Project Team

Date Reviewed by Joint Project Team 13th June 2014

Date to be reviewed by the On The Move Programme Board 19th June 2014

Date to be reviewed by ASSB Jul-14

Date to be reviewed by Joint Project Team 11th July 2014

LEGEND (RISK OWNERSHIP)
DL - David Loudon
HG - Heather Griffin
HMcD - Hugh McDerment
MM - Mairi Macleod
MMc - Mark McAllister
PM - Peter Moir
KC-Karen Connelly
DH - David Hall
DR - Douglas Ross
EM - Eleanor McColl

Risk = the chance of something happening which will cause harm
Levels of risk = assessed in terms of likelihood and consequence (LxC)

Likelihood (L)	Consequence (C)		Risk Ranking Priority	
5	Extreme	5	20 - 25	= Priority 1 - **VERY HIGH**
4	Major	4	12 - 19	= Priority 2 - **HIGH**
3	Moderate	3	6 - 11	= Priority 3 - **MEDIUM**
2	Minor	2	1 - 5	= Priority 4 - **LOW**
1	Negligible	1		

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
1	Appropriate Design Quality not being Achieved. (Building and Services)	Detailed Employer's requirements set out Quality Standards. A&DS supporting project with enabler input. Evaluation criteria has quality as a key element and priority. Design Action considered in specifications BREEAM Consultant Input to Planning process Project Supervisor contracted from 1st June 2010 (Capita) Project Supervisors quality checking construction and engineering	1	5	**5**		Design checks on appendix K agreed for FBC approval Supervisors on site from June 2010 - Monthly reporting Ongoing monitoring RDD process will continue to be maintained. 2 Stage review process - 1st stage review undertaken in July 2010. 1:200 review concluded minimum scope change 1:50 process finalised - minimum scope change Project Team involved in product workshops to input services/finishes selection 1:50 "sweep-up" exercise concluded Project Team zone inspections underway to ensure design requirements met	PM
2	HOSPITALS - Capital costs out with affordable level	Formal change control process in place to control scope change Review contingency at ASSB Review at Commercial Group meeting	1	5	**5**		Ongoing monitoring. Regular reporting to the Exec Group Final stage of 1:50 process in place. 98% of contract let Hospitals outturn cost forecasted within budget. Continually review and report on contingency Ongoing assessment of risks through Early Warning meeting with Brookfield. Phase 3A demolition and ground works	DL
3	Lack of adequate resources and skills for next stage of the project (Stages 2&3) are in place and for commissioning	Realign project team and technical team to meet new project challenge. Review and change technical advisor input. Identified requirement to commission quality regime for construction phases of the project (supervisors) Restructured Project team and allocated responsibilities	2	2	**4**		Obtained support from Procurement and Medical Physics, IT and Pharmacy Continuous Review Assign each team member with special responsibilities. Out sourcing specialist staff for testing and commissioning	DL

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
4	Major Hospitals works starting on site from March 2011 and potential risk to current site operation	Construction Interface Group established to manage, control and monitor all activities and liaise with Contractor, SGH Facilities and SGH Estates Depts. Group undertakes a weekly "look-ahead" of programme to identify any potential disruption. Site and/or specific department notified in advance of any potential disruption. Other site projects also members of this group Complaints Register instigated to log any complaints and actions taken Ongoing liaison with local residents during link bridge install and VIE construction	2	3	**6**		Continuous monitoring and evaluation of processes and outcomes by Project Team and PMG Ground scanned for services check Users involved where there is potential for the works to impact on their services Ground scan for services check repeated (March 2012). Prior to any works continuing to liaise with Directorate Lead Current focus is on the link bridge installations and associated works	DL
5	Appropriate communications not being provided to all stakeholders	Since Ministerial announcement with role out communication plan to all stakeholders Communications Plan in force Strategy provided by OTM Comms Group	3	4	**12**		Project team continue to review communications Boards website updated monthly with webcam images A project web-portal has been set-up Project Community Engagement Manager working closely with BCL to take forward joint communications Community Engagement events for local residents commenced formally 19th July 2010. Presentation to South Glasgow Area committees x 6 ASR Communications Group established Neighbourhood Liaison Group established	MM/Project Team
6	Detrimental environmental impacts i.e. Noise disruption and pollution	All works to be assessed for noise disruption and/or pollution consequences Ecology report undertaken Contractors environmental policy implemented WRAP initiative implemented . Brookfield monitor vibration and noise automatically. Disruption to local residents during VIE construction, removal of tower cranes. Continue local liaison with residents	4	3	**12**		Ongoing review by PMG Regular meetings with local residents to discuss a series of environmental issues pre construction of the hospitals BCL WRAP on site Dust monitors installed around BMCL site to gather information - weekly report provided to NHS Team Dust screens erected in specific locations Acoustic barriers erected to minimise potential noise disruption Project Director reinforced that Brookfield must comply with GCC conditions. PPC application made and under review and project team in consultations with SEPA	PM
7	Inadequate LAN Infrastructure costs allowed for in Project	There is a risk that there is insufficient budget allocated for LAN Infrastructure costs in Project budget. This could result in their being insufficient available budget to cover any LAN design changes that need to be made.	1	4	**4**		Contractor appointed to install LAN and switches. IT active equipment install programme commenced October 2013 and implementation plan has been developed in line with BMCL commissioning plan. As at June 2014 installation of LAN switches is 90% complete. The Board will continue to liaise with BMCL to ensure that any port increase is captured	EM
8	Failure to meet requirements of fire guidance documents - programme impact (design process)	Fire strategy developed in conjunction with NHS personnel including Fire Officer Progress monitored at Project Management Group and Project Team Regular specific fire meetings scheduled with Project Team and Users. All information sent to building control. Only cause and effect matrix to be concluded	1	3	**3**		Building Warrant application submitted to GCC Building Control Dept Workshops arranged to discuss fire strategy with Architects, Project Team, Technical Advisers, Contractor and Strathclyde Fire & Rescue Ongoing discussions TA Fire Advisers prepared report for submission to Building Control - indicating BCL design fully compliant with Fire Regulations Recent guidance released setting out new compliance standards for the prevention of fire in the atria of healthcare buildings. NHS Project Team and designers determining whether any changes to the design is required. Ongoing liaison with GCC Building warrant for Stage 8 (Fire Strategy) now received by BMCL Project Team met with HFS who are satisfied the atrium design meets new regulations. Building Warrant now concluded	DH

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
9	Data share with Contractor not adequate	Process in place (Aconex) to ensure contractor correspondence widely circulated and requests actioned	2	2	**4**		Standing agenda item for weekly project team Further aconex training provided to project team members Request For Information (RFI) tracker developed and being actively managed to ensure responses provided to contractor within appropriate timescales. RFI tracker is standing agenda item on site progress and design groups.	DL
10	A&C - Group 2,3,4 & 5 Equipment Non-compliance of group 5 equipment with BMCL Construction programme	Project Team have agreed a methodology to respond to BMCL plan/construction programme. Resource to assist maintaining the programme being provided to the project Team from Medical Physics (Secondment) Cost estimate prepared and reviewed for each equipment category. Tenders issues and returned. Tender assessment process is underway	1	4	**4**		Project Team receives regular progress updates from Equipment Group lead to ensure no impact on programme. Work underway to identify 'new' versus 'transfer' equipment Full detailed equipment installation process being developed Regular meetings between BMCL and NHS to discuss and agree way forward re group 5 equipment install in those areas to be completed first. Deliveries of Group 2 (Board supply) equipment to BMCL ongoing and methodology for the delivery and storage of Group 2 equipment to/by BMCL concluded. Group 3 & 4 - Project team meeting users to start process of determining old versus new Group 5 - detail plan agreed to procure and install equipment - still to agree purchase/transfer	RS
11	Specialist Departments Failure to identify early those reps who need to be involved in the final sign-off of specialist departments i.e. external validators, external testers, etc	Project Team have identified a list of departments that will require specialist input to the design/sign-off process.	2	5	**10**		Project Team to liaise with the leads of the specialist departments to seek details of validators/testers that will be required for final sign-off of a room/area/dept. BMCL are organising to present their proposals to commission the hospitals to the NHS Team. Final system commissioning programme required from BMCL to allow planning of the test and commissioning of systems. Information required by April/May 2014 to progress within timelines, programme from BMCL awaited.	PM
12	Construction Quality requirement not being achieved	Capita Symonds appointed independent testers. Additional NHS support/resource provided on project (July 2012)	2	3	**6**		Provide regular reports on all aspects of construction activities. Provide weekly quality report to Project Team Both reports discussed at monthly meetings and information shared with contractor. Daily site visits undertaken by NHS Reps to monitor works on the site. NHS Reps linking with Capita to raise any concerns in order that formal communications are provided to BMCL. Exemplar areas have been signed off which sets the precedent going forward for the rest of the building. Zone inspections underway by Project Team to ensure that quality requirements are met.	PM
13	The detrimental effect of any of the demolitions works -post 2015- on the hepa filtered wards in both the adult and children's hospitals	Distance from air intake point. Environmental control covered within contract Involvement of Decommissioning Group (Capital Planning) from May 2014	3	3	**9**		Discussions to be instigated with BMCL Dustscan in place to monitor dust levels. Dust suppression system used onsite Understanding dust filter implications. Risk assess this aspect as part of demolition contract, may require additional filters.	PM

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	RISK EXPOSURE Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
14	PPC Permits - Change to legislation Requirement to obtain permit to operate large scale combustion plant for purposes of commissioning. Not obtaining permit will delay BMCL commissioning	NHS GG&C are designated operators of the proposed energy centre & existing retained estate combustion plant and are therefore responsible to for the submission of permit application. Permit application was duly submitted on 3rd March 2014.	3	5	**15**		SEPA 5 month review process anticipated, (July commissioning programme). Post Public consultation notice (March 2014) . Installation of drainage oil seperator at EC fuel transfer station Production of management operating procedures in preparation for 1st audit under permit.	IP
15	Inadequate Commissioning of Buildings	Commissioning Plan and Completion Criteria. NHS Resource Plan Focussed meetings with BMCL	2	4	**8**		Completion criteria to be circulated to the group.Breaking down by areas would be useful to take forward	PM
16	Building Control - Delayed Statutory approval	Project programme Project meetings with BMCL	2	4	**8**		Completion criteria to be circulated to the group. Acoustic testing being planned. Temporary occupancy certification will be issued until Stage 3 completed. Temporary partitions may require to be set up in retails spaces to satisfy fire regulations	PM
17	Non-compliance of completion criteria by BMCL	Meetings to be arranged. Criteria to be circulated	3	4	**12**		Completion criteria to be circulated to the group. Continue to monitor progress	PM
18	Helipad flight acceptance test not being granted	Method statement from BMCL	2	2	**4**		Alternative landing and transport in place, Contact with relevant external - including SAS/GCC/Military/Private Sector suppliers to be involved	PM
19	Unable to recruit and train staff to manage the helipad for test flight after commissioning	Discussions underway with relevant NHS colleagues to plan and prepare	3	5	**15**		Meeting arranged with BMCL and Helicopter Advisor to confirm requirements. Training provider identified at Glasgow Airport. Job Description and person spec in development	DL
20	Specialist Witness Testing - lack of availability of appropriate resources	Make arrangements with relevant specialist staff groups to prepare for work load	3	4	**12**		Commissioning programme required from BMCL to prepare and plan for this part of the process	PM

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
21	Non-completion by 26th January 2015 - impact on migration, procurement	Monthly monitoring and weekly walkthrough to monitor situation	3	4	**12**		Continue regular monitoring	DL
22	Compression of commissioning programme	Existing commissioning programmes are in place for plant rooms and energy centre	2	4	**8**		Requested issue of commissioning programme on a quarterly basis. October/Jan/April and July to keep under review	PM/DH
23	Financial/Commercial - impact of failure to budget appropriately for remaining packages	Monitor on a regular basis procurement and financials of BMCL	1	2	**2**		Regular monitoring of the financial spending of the contractor	DR
24	Sub-contractor liquidated/cease to trade	Financial checks continue to be carried out - guarantee bonds in place and warranties in place via BMCL	1	3	**3**		Continue to check financials on a regular basis	DR
25	Non-completion of project - £1/4M per week costs to BMCL, impact on migration, procurement, commissioning and Board being unable to clear areas of the campus scheduled for demolition to complete stage 3 works	Continual monitoring of programmes, work on site and financial status of main contractor and their sub-contractors	2	5	**10**		Include this issues within programme risk and continue liaison with BMCL	DL/PM/DH
26	Cashflow - possible issues for 2014/2015	Project Director working with Finance colleagues to ensure funds are allocated appropriately throughout the contract	2	5	**10**		Review of cashflow predictions with AMcCubbin	DL
27	Staff - lack of familiarisation with new areas Lack of familiarisation with new technologies Inadequate plan with FM colleagues to take forward best ways of familiarising buildings and campus	Induction & Orientation Group to review ways of providing familiarisation with focus on relevant areas initially. Authorised persons for HV, Medical Gases etc to be incorporated in training Additional costs for additional training - contractually BMCL will provide commissioning training but clarity on what this incorporates and level of training provided. Board requires clear understanding in order to develop plans Staff tours of new hospitals underway	2	5	**10**		Project Manager to liaise with colleagues in Learning & Education and FM on the best way forward - target to complete discussion by end of 2014 Familiarisation sessions wth Estates Dept reps ongoing covering all apsects of the electrical and mechanical systems installed.	MMcA/MM/HG/KC

Ref	THE RISK - what can happen and how it can impact	CONTROLS IN PLACE	RISK EXPOSURE Likelihood (L)	Consequence (C)	RISK RATING (LxC)	RISK RANKING PRIORITY	FURTHER ACTION REQUIRED	OWNER
28	Loss of Key Resources (NHS)	Sharing of knowledge, roles and responsibilities	2	3	**6**		Buddy up staff to lessen impact	DL
29	Loss of Key Resources (BMCL) - key staff moving onto new contracts	BMCL to confirm	4	3	**12**		Check BMCL position in relation to staff retention until job is completed	DL
30	Lack of early communication with external stakeholders	Split responsibility with project team and other NHS colleagues Ongoing meetings with SAS/GCC/Police	3	4	**12**		Police, SAS, GCC, Community Engagement and Board level discussions along with tours for staff, familiarisation, equipment training, video training. Supplier training built into procurement tenders	MMcA/MM/HG
31	On the Move Risks	Any further changes to national services will impact on migration planning. Colleagues informed of financial implication of any changes to programme at this stage	2	4	**8**		Continue liaison with stakeholders to ensure this message is understood	DL
32	Access to new hospitals - transport/car parking, Section 75 not being fully implemented. GCC not completing Fastlink to ensure use for hospitals opening, costs being too high to make public transport attractive or timing being inappropriate for shifts and appointments. Under provision of car parking a concern, inappropriate signage and directions	Work with colleagues at GGC to ensure that planning of Fastlink is progressed within timeframe. Working with transport providers to ensure that transport is appropriate for requirements. Project team progressing and planning the car parking provision and understanding pinch points of the project	2	3	**6**		Community Engagement working with GCC, car parking policy being implemented and community engagement sub-group to take forward ideas for communication with users and staff. Noted reputation of Board at risk if not fully thought through	MMcA
33	Demolition planning - non compliance and service disruption	Policies adhered to and understood	2	4	**8**		Preventative - comply with Board policy. Training support for responsible staff	HMcD
34	Over development of SGH - concurrent activities, disruption to hospital project delivery. Lack of co-ordination of works	Programme, management and methodology	4	4	**16**		Additional PM support. Appropriate procurement plans	DL

From: Powrie, Ian
To: Neil Hadden
Subject: FW: GG&C Incident Management Policy June 2014
Date: 16 July 2014 14:20:00
Attachments: Incident Mgt Policy June 14.pdf

Neil

Please find attached FYI and reference a copy of our incident management policy.

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

NHS
Greater Glasgow and Clyde

INCIDENT MANAGEMENT POLICY

June 2014

Lead Manager	Head of Health and Safety
Responsible Director	Director of Human Resources
Approved By	Health and Safety Forum
Date Approved	June 2014
Date for Review	June 2017
Version	Version 3 (Version1 – 2008, Version 2 - 2011)

CONTENTS

I. Scope of Policy Implementation

This policy is written in support of the general statements and principles as set out in the NHS Greater Glasgow and Clyde Health and Safety Policy.

II. Roles and Responsibilities

The framework of accountability and responsibility for managers and staff on the implementation of this policy follow that laid out within the Health and Safety Policy.

It is Local Managers and Head of Departments responsibility to ensure that actions are in place to ensure the implementation of the policy. In particular the timely and efficient use of the DATIXWEB Incident Reporting System.

1. INTRODUCTION

The reporting of incidents forms part of the Risk Management Strategy and should be recognised as a means of improving the quality of patient care and minimising risk. The open reporting of even minor incidents allows weaknesses to be identified in the system, customs and practices changed and retraining of staff where necessary. Investigation must be balanced with the need to counsel and support staff through any potential or actual incident, and to ensure appropriate support is given.

This is a guide for staff on how to report clinical and non-clinical incidents, including near misses and potential incidents. It covers *all* incidents, whether they involve patients, relatives, visitors, staff, contractors, volunteers or the general public. Due to the size and structure of the organisation incidents are generally reported up through two main streams with the non-clinical incidents reviewed by the Health & Safety Service and the clinical incidents reviewed by Clinical Risk. Examples of incident category under these main headings are given in appendix 4.3.

- An **'incident'** is any event or circumstance that led to unintended or unexpected harm, loss or damage.

- A **'Near Miss'** is an event or occurrence which, but for skilful management or a fortunate turn of events, **would** have led to harm, loss or damage.

- A **Serious Incident** (sometimes known as a 'Significant Incident') is an event deemed at Director level to be sufficiently serious to warrant a formal investigation reportable to relevant Directorate/Partnership Senior Management with investigation monitored by the appropriate Health & Safety or Clinical Governance Forum. Usually it would involve the risk of death or serious injury / ill-health, major damage to property, loss of a service, create a major health risk, or are a threat to the strategic objectives of the NHSGGC. **There is a policy on the Management of Significant Clinical Incidents for further information.**

This would also include **Reportable** incidents under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013. Such incidents are reported to the Health and Safety Executive (HSE) by the Health and Safety Service. The Health and Safety Service will also undertake investigation of all RIDDOR incidents and provide a report on their findings to the appropriate level of Management.

The NHSGGC recognises the importance of reporting incidents:-

- *The management of risk is the responsibility of all managers and staff throughout the NHSGGC. We aim to achieve this within a progressive, honest and open environment, where risks, incidents, accidents, mistakes and near misses are identified quickly and acted upon in a positive and constructive way.*
- *No disciplinary action will result except where, after a full investigation, there has been criminal or malicious activity, professional malpractice, or acts of gross misconduct. Disciplinary action may be considered where incidents or violations have not been reported.*
- *Staff will be provided with education, training and support to enable them to meet this responsibility.*

NHSGGC promotes and seeks to encourage a culture of reporting so as to identify and learn from sources of error and risk which may lead to damage, loss or harm, complaint or legal claim for negligence.

Staff should report in the first instance to their line managers who will advise on action.

Understanding and learning from incidents is an important part of risk management. The occurrence of an incident or near miss might trigger a review of a risk assessment of a work area or of a particular practice, to work out how to minimise the chance of similar incidents in future. The type and frequency of incidents should also be taken into account when compiling Risk Registers. (Hyperlink to Risk Register policy)

The Health and Safety Service together with the Clinical Governance Support Unit, Occupational Health Service and other specialist departments can provide advice and support on the investigation and handling of serious incidents.

The Health and Safety Service will conduct investigations into all RIDDOR Reportable Incidents. This investigation will be separate from any local investigations undertaken by local management.

2. REPORTING INCIDENTS

2.1 The reporting system

When an incident or a near miss occurs, the NHSGGC Incident Reporting System must be used.

- Web based incident reporting via a computer terminal – DATIX

NHSGGC has committed to the use of the web based incident reporting system DATIX. This allows incidents to be reported in real-time reducing delays experienced with paper systems. The web form divides the incidents into clinical and non-clinical with categories appearing in dropdown lists to make selection and completion straightforward.

Selection for separate recording of clinical and non-clinical incidents is made at the “Incident type” box on the DATIX report form.

It is recognized that on occasion access to IT systems may be compromised. It is recommended that local managers print a few copies of the paper version to be used in such circumstances, that will then require to be input to DATIX.

2.2 What is an "Incident"

- is an event which results in injury or ill health.
- is contrary to the specified or expected standard of patient care or service.
- places patient(s) or staff member(s), or visitor(s), contractor(s) or member(s) of the public at unnecessary risk of harm.
- places NHSGGC in an adverse position with potential loss of reputation.
- places NHSGGC property or assets in an adverse position or at risk of loss or damage.

2.3 Near miss reporting

This is an occurrence that might have led to harm or damage but did not happen due to discovery, chance or skilful management. Reporting a 'near miss' event is as important as reporting incidents that actually occurred and caused harm. Although a 'near miss' did not cause harm the potential for recurrence probably still exists and this needs to be managed effectively. *The point for selection of a near miss is within the "Outcomes" box in Section 3 of the DATIX report form.*

2.4 Your duties as a NHSGGC employee

NHSGGC aims to promote a culture in which all staff are individually conscious of their responsibility to reduce and prevent unsafe practices and routinely to raise concerns.

As a member of staff you are *required* to inform your line manager of incidents and near misses. Your duty to report applies even if you are not directly or potentially affected.

The NHSGGC Risk Management Strategy states:

> *"In order to ensure full reporting of incidents, a 'just culture' will be operated within which staff are free to report on incidents and concerns in the knowledge that they will be supported."*

2.5 Steps to take following an incident.

It should not be the responsibility of an individual member of staff to solely undertake any of the following actions. Support should be expected from colleagues and line management.

Immediate action.
Before the reporting system is commenced some incidents will require prompt and specific action to deal with the problem. This may involve:

Individual care of the person(s) affected by the incident

- Provide emergency medical/psychiatric treatment.
- Treat /care for others affected.
- Ensure that all patients, staff, visitors and others at risk, are moved to a safe area if there is an environmental threat.

Create a safe environment

- Summon assistance e.g. police, fire.
- Take immediate action if the incident could recur.
- If equipment /machinery is involved, remove it from service (marking it clearly out of order). Isolate any faulty equipment in a safe place for later inspection without altering its settings. You should record any settings that may be lost when the machine is turned off. Make a record of the equipment's serial number. Contact Clinical Physics or the Estates Department as appropriate.
- Appropriate records, materials and equipment, including disposable equipment used in conjunction with any device, must be retained.

Communication

- Notify line manager for all incidents.
- Notify senior members of staff if incident is significant.
- Where appropriate, notifying next of kin for both patient and staff injury incidents.
- Consider the need to provide an explanation or an apology to the patient and family; an apology invariably improves relationships and communications and, note, is not an admission of liability.
- Record all actions taken.

Where death or serious injury has occurred or you regard the incident as very serious, **reporting must be immediate**, i.e. by telephone to senior managers, or on call managers outside normal working hours.
Health and Safety Services should also be informed immediately during office hours or by leaving a message on the answering service outwith office hours.

The patient's Consultant must be informed of serious/significant incidents especially if this resulted in an adverse outcome.

In some circumstances deaths of patients may require to be reported to the Procurator Fiscal. Further Guidance on this is covered by the Significant Clinical Incident Policy.

2.6 Reporting

Access to the DATIX reporting system via Staffnet. (under Applications)

If you have not completed the incident form before, read through it before you fill it in. Guidance on completion is available at the DATIX staffnet page, also via a link at the top of the online reporting form DIF1. At the initial time of completion not all the necessary information may be available. This should not delay the reporting process as missing information can be added later.

The key information you will be asked is:

- The location of where the incident occurred (Where)
- The date and time of the incident (When)
- Personal details relating to the person involved in the incident (victim / injured party)

- Description of the incident (What, Why and How)
- The outcome of the person involved (injury / result)
- The immediate treatment given to the person involved.
- Any immediate action taken
- Any remedial action taken to minimise risk of recurrence
- Others who were involved in observing or reporting the incident.
- The severity of the incident (see section 2.10)

It is imperative that the person(s) reporting the incident confine themselves to **issues of fact**. There is no place for any opinion or assumptions, however well intended. Merely state the facts as they are. Incident forms may have to be **disclosed** in the event of subsequent litigation. Therefore it is important that details are **accurate and factual**.

If staff are involved in an incident on other NHS employers' premises, they must report and complete an incident form for that organisation. The member of staff should upon return to base inform their line manager of the incident. Staff involved in an incident elsewhere e.g. a patient's home, should complete a NHSGGC Datix form as soon as they return to their place of work.
All staff with honorary contracts must complete a form if they are involved in an incident on NHSGGC property. Volunteers and students on work experience should similarly complete a form if they are involved in an incident whilst on NHSGGC property and also make a report to the organisation which has placed them in NHSGGC.

Presently it is not possible to operate an incident reporting system which can be utilised by two separate employers. Therefore the dual reporting systems in use within Partnerships will remain.

It is acceptable for staff to complete forms on behalf of other people if the need arises, after full establishment of the facts.

If the incident is an event, only one form is necessary as multiple forms providing different versions of the same incident lead to double counting of the incident. The most senior person present at the incident should ensure that at least one form is completed.
Where it is necessary to record more than one person involved or affected by the incident this can be done by using the repeating section of "persons affected" on the DATIX DIF1 reporting form.

> Non-clinical example: A patient became violent in the ward area and three members of staff were injured. Each member of staff would be recorded on the ***single incident form*** relating to their involvement and injury. It would only be necessary to complete a form for the patient if he/she were also injured. The only exception to this would be where more than 1 persons involvement resulted in a RIDDOR report. In such circumstances separate reports would be required for each person.
>
> Clinical example: Medication incident where patient A gets patient B's drugs and as a result patient B does not receive any drugs. Although both incidents relate to the same initial error, patient A would be reported as *wrong patient for medication* and patient B would be reported as *omission of medication.*

To help improve safety at NHSGGC, the incident reporting process has to be pursued to a conclusion at the level of the local management team. This requires local ownership and commitment to action. Line managers and staff should work together to ensure that the specific concerns raised are acted upon and information about the event and the outcomes shared as widely as possible, seeking corporate advice if needed from relevant departments, e.g.:

- Clinical Risk
- Health and Safety Services
- Clinical Physics Department
- Estates
- Radiation Protection
- Infection Control Team,
- Occupational Health.
- Pharmacy
- Falls prevention

Notifying any of the above, while necessary is not a sufficient response to an incident. A Datix must also be completed.

Those noted in the table above may carry out investigations into the incident. It should be noted that such action does not remove the need for local management to investigate the incident.

2.7 Timescales for Datix Reporting

You should complete your part of the form as soon as possible after the event, **within one working day**, unless, exceptionally, there are reasons for delay. Do not delay reporting because some information is unavailable; this can be added later.

It is the line manager's job to review the form, to complete further sections of the form such as severity and submit for **final approval within 7 days**. This includes identifying whether an incident is RIDDOR reportable or not. When it is believed that the incident is RIDDOR reportable the Health and Safety Service must be notified immediately.

2.8 RIDDOR Reportable Incidents

The **Reporting of Injuries, Diseases and Dangerous Occurrences Regulations** place a statutory duty on NHSGGC to report certain incidents within prescribed timescales. Specified **Injuries** and **Dangerous Occurrences** require immediate reporting to the Health and Safety Executive. An Incident which resulted in an employee being unable to attend work or unable to carry out their normal duties for 7 days, must be reported within 15 days to the HSE.

All RIDDOR reporting is the responsibility of the Health and Safety Service. Incidents which are covered by these Regulations are listed in Appendix 4.6.

If in doubt whether an incident falls within RIDDOR or not, guidance should be sought from the Health and Safety Service.

2.9 The Line Manager's Role

On receipt of notification from DATIX, the **line manager's role** is to:

- Ensure the correct Category has been selected, where at all possible avoiding using "Other"
- Ensure names of persons involved are not included in the free text sections.
- Record on the form what action was taken, or will be taken, including an indication of whether further investigation is required by them.
- Ascertain if any sickness absence has occurred due to the incident.

- Ensure contact has been made with any identified Investigators
- Submit the form for final approval
- Attach any relevant related papers. Including witness statements.
- **Inform the member(s) of staff** who completed the incident form on what action you intend to initiate or to take. **Providing feedback to staff is essential and must be recorded on DATIX**
- For incidents that affect patients; ensure that relevant information is added to the patient's notes.
- Ensure that staff preserve all relevant documents, equipment, devices, drugs or any other item that may be used to assist any subsequent investigation.

It should be noted that Manager's do have the access rights to be able to generate incident statistics data for their areas of responsibility. Specific training for this is available form the DATIX Support Team.

2.10 Severity Rating of incidents

5 or 4	**Extreme or Major**	Management level investigation required, record and analyse investigation results retrospectively.
3	**Moderate**	Local investigation required, record and analyse investigation results retrospectively.
2 or 1	**Minor or Negligible**	Consider local investigation, record and analyse investigation results retrospectively.

If the incident has a severity rating of **4** or **5** (Extreme or Major) consideration must be given to reporting it to senior staff within the Clinical Risk or Health and Safety Services. (See Significant Clinical Incidents Policy for more information).

Moderate rated incidents of **3** should be reviewed by the Local Management Teams and an action plan drawn up to eliminate or reduce the risk of recurrence.

Minor and negligible incidents of **1** and **2** should be investigated at the discretion of the line manager who receives the report.

2.11 Follow-up action

If the rating is a **4** or **5** there must be an investigation, following the principles of Root Cause Analysis.

In consultation with the Clinical Governance Department or Health and Safety Service consideration should be made whether the severity of the incident is such that it merits formal classification as a "Significant / Serious Incident". This will not necessarily be the case for all these incidents. These incidents should also be discussed with the Clinical Director or General Manager.

If the severity is moderate, there should at least be an informal investigation, led by the line manager, using if appropriate, a root cause analysis type approach.

If the severity is minor or low this does not mean that the incident can be ignored. These incidents represent small failures and vulnerabilities that may signal action to avoid repeat or escalation of a situation**.**

For incidents severity graded 3,4 or 5 there should be a discussion at the appropriate Directorate / Partnership Management Forum. This could be done in a number of ways, depending on the issues arising from the incident and the subsequent investigation. One approach would be to make case presentations quarterly, but clearly, where there are serious and pressing issues, these should be brought to the next possible meeting.

It is important that all the facts of an incident are reviewed. Human error may seem to be the immediate cause, but an incident is rarely due to a single act or omission. Usually an incident occurs because of a combination of actions, events and the surrounding circumstances.
The line manager will communicate with colleagues, formally or informally and agree the level of requirements needed to resolve the issue and introduce preventive measures against recurrence of this or similar problems.

Reference should always be made to existing policies or procedures that relate to the incident and apply to local circumstances, as they may contain specific instructions on immediate action to be taken, e.g. Infection Control policies, Health and Safety policies, resuscitation, medical devices, manual handling, radiation safety and others listed in public folders and on the intranet.

2.12 Communicating with patients and families

When an incident has occurred, NHSGGC's policy is to communicate the facts as openly and rapidly as possible with patients and their families or individuals close to the family. This should be done whenever possible by a senior member of staff in conjunction with a member of staff known to the person affected. It is particularly important in circumstances where external agencies may become involved, to inform those affected, including staff, before this happens.

If there is likely to be a need for continuing communication with a patient or family about an incident, it is essential that one member of the clinical team is nominated to act as the main point of liaison and that the family knows to whom to direct their concerns. This is usually the patient's Consultant who will decide, considering the patient condition, the level of explanation given to the patient and how this explanation is recorded in the patient's notes.

Experience shows that identifying this lead person as early as possible is essential in supporting the patient and family.

In some instances it may be prudent to inform NHSGGC Communications Team in preparation for media enquiries.

2.13 Good Practice Notes

a) Why it is necessary to complete an incident form.

The completion of an incident report matters because:

- It is a contemporaneous record of the event, which captures the basic information in one place and in a single system.
- It acts as a prompt for further action locally and, if necessary corporately – a need for more detailed investigation, development of a remedial plan, dissemination of the lessons that can be learned from the incident.
- It is a source of information that contributes to an analysis of patterns of events.
- It may lead to identification of more serious problems or trends which need special attention.
- It may form the first stage of documentation in a future legal claim of negligence.
- Information on the form should always be clear and unambiguous, factual and without obscure abbreviations.
- In some cases such as Reportable Incidents it is a legal requirement.

b) Other means of reporting an incident

The use of DATIX is the primary formal reporting system within NHSGGC. The exception being Radiation Incidents, which are reported via a different system within that service. (Q Pulse.)

It may be the case that in exceptional circumstances other forms of communication with the Clinical Risk Department or Health and Safety Service may be utilised e.g. email. However even in these circumstances, ultimately the matter will have to be formally recorded on DATIX.

c) Equipment

If any piece of equipment is involved in an incident:

- First of all, follow the advice under ‘Immediate Action’. (section 2.5)
- Retain the device/equipment involved in the incident, including packaging and instructions where appropriate.
- If it is a machine ensure the item is removed from use immediately and labelled to prevent further use. Try to leave all switches and controls as they were at the time of the incident unless it is not safe to do so, in which case make a note of all settings. Notify Health and Safety Service and/or Clinical Risk as either may require to instigate immediate investigation and require to record current condition of equipment.
- Contact, as appropriate, the Clinical Physics or Estates department to assess the equipment and organise repair if necessary. Consideration will be necessary as to whether the equipment may require decontamination. Advice can be sought from Infection Control.
- As per the role of the Equipment Co-Ordinator as set out within the Safety Action Notice Policy, the Clinical Physics or the Health and Safety Service will be responsible for reporting any relevant device/ equipment related incidents to Health Facilities Scotland.

d) Assurance

In order to ensure that this system of reporting is working well, the following arrangements are in place as a check and balance:

- Local managers / health and safety committees must review the incidents occurring within their area to ensure any required actions have been completed.
- The NHSGGC's Risk Management Steering Committee reviews the overall system of incident reporting to ensure it is a robust and effective method.
- Board wide committees review and discuss incidents pertaining to their area of responsibility to ensure lessons have been learned and the likelihood of reoccurrence is reduced e.g. Clinical Governance Committee, Health & Safety Forum, Safer Use of Medicines, Blood Transfusion, Infection Control, Medical Devices, Needlestick Reduction etc.

e) Training

Topics where the Clinical Risk or Health and Safety Services can provide briefings or links to external sources of training include the following topics:

- Incident reporting
- Incident investigation
- Health and Safety requirements
- Root Cause analysis
- Introduction to risk management
- Risk registers
- Risk assessments

2.14 The role of the Health and Safety Services or Clinical Governance Support Unit

The Health and Safety Services and/or Clinical Risk regularly review the DATIX database. However it should not be assumed that all incidents will be discovered via this route and it is recommended that, as described above, direct contact should be made following serious incidents. Analyses are regularly fed back to Directorates/Partnerships and Departments. Additionally local managers are required to interrogate Datix and produce their own reports and analysis of incidents within their areas of responsibility. The data is used both centrally to target risk reduction programs within the Partnerships/ Directorates.

Patient safety bulletins are produced, drawing out any lessons and action points arising from incidents. Internal safety notices may also be produced if communication of a particular issue requires to be rapidly shared with the organisation. Data is also used to assist in compliance with Health and Safety legislation.

3. SUMMARY of ROLES AND RESPONSIBILITIES

a) Every member of staff

Everyone in the organisation has a responsibility to:

- Maintain general risk awareness and accept personal responsibility for maintaining a safe environment, notifying line managers of any identified risks.
- Report incidents, accidents, mistakes and 'near misses' and action taken using the incident reporting system - DATIX.
- Comply with NHSGGC rules, regulations and guidance to protect the health, safety and welfare of anyone working in, using, staying within, or visiting NHSGGC premises.
- Maintain confidentiality of patient and NHSGGC information.

- Be aware of emergency procedures, e.g. resuscitation, first aid, evacuation and fire precautions, as relevant to the employee's particular work area.
- Co-operate in the investigation and review of incidents to improve future services and reduce future risks.

b) Local Managers and Departmental Heads

Every Local Manager and Departmental Head has a responsibility to:

- Review and / or approve incidents and near misses reported to their department.
- Undertake initial categorisation of the type of event and seriousness on the incident form.
- Foster an environment in which staff are encouraged to report incidents and discuss the implications constructively and openly.
- Maintain departmental policies and procedures and ensure staff are aware of them and are trained to follow them.
- Contribute to directorate and corporate discussions and reviews (both on own initiative and when asked to do so).

c) Directors / Partnership Management Team and other Senior Staff

Each directorate/ partnership has a clear risk management responsibility and is responsible for:

- Reviewing all serious incidents and a sample of the less serious ones.
- Ensuring that the required actions have been taken and are followed through.
- Ensuring that there is a regular multidisciplinary governance meeting which reviews the serious incidents and actions arising and all relevant policies and procedures.
- Deciding who should lead the review of incidents and investigations and when this should be escalated beyond the departmental level.

d) Clinical Governance Support Unit

This department has a number of support responsibilities in relation to NHSGGC wide risk management arrangements. These include:

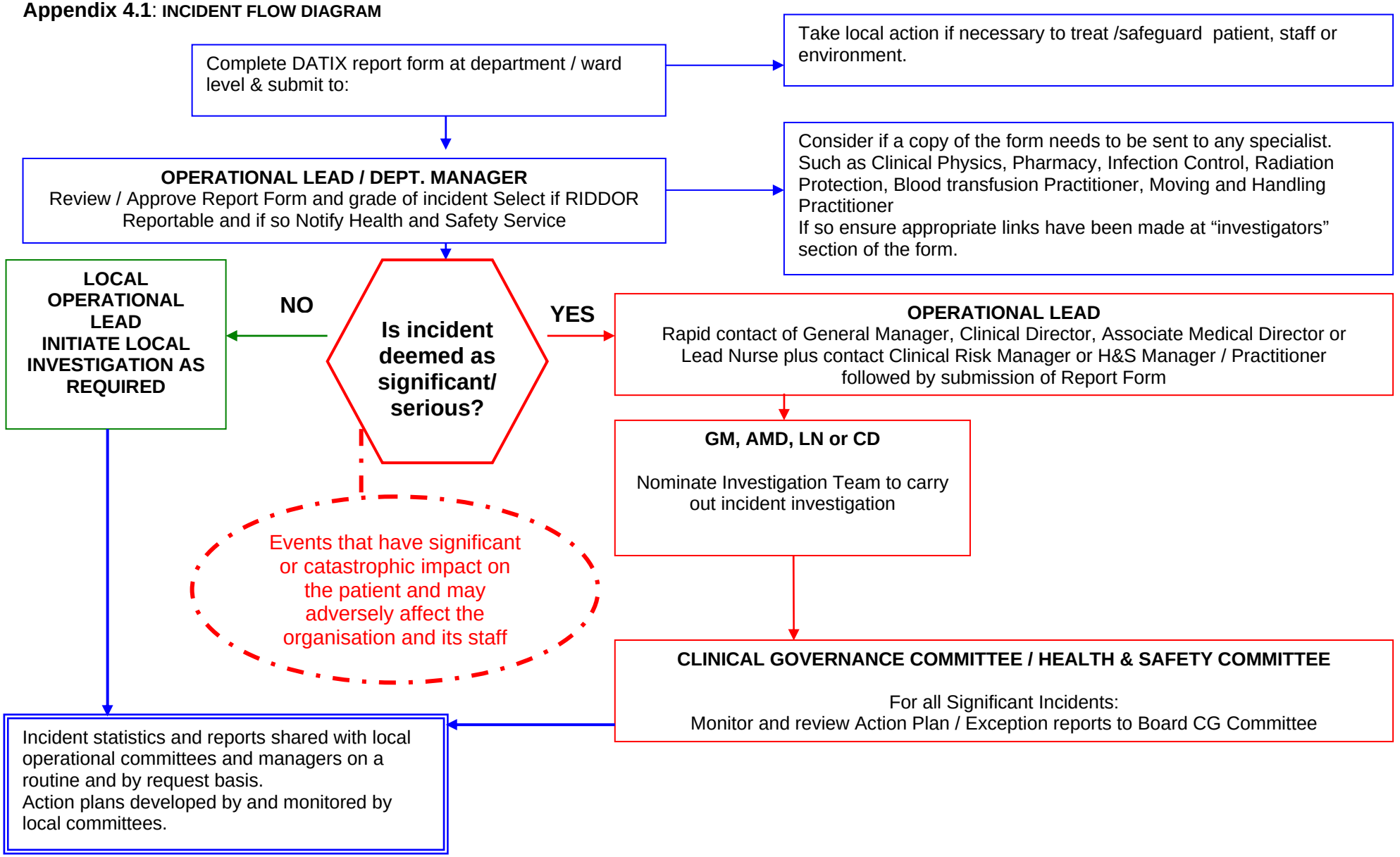
- Advising on external reporting requirements.
- Maintaining and monitoring the reporting system of clinical incidents within the NHSGGC.
- Analysing trends to inform directorate/partnerships decisions and corporate management decisions.
- Supporting reviews of serious incidents.

e) Health and Safety Service

This department, part of the Corporate HR Department, includes responsibility for the provision of competent health and safety advice to assist in ensuring compliance with applicable health and safety law and guidance:

- Liaising with the Health & Safety Executive in the establishment and maintenance of procedures for reporting, investigating, recording and analysing Reportable accidents and incidents where appropriate.
- Ensuring reporting of accidents and ill health is undertaken in accordance with statutory requirements, e.g. RIDDOR.
- Investigating RIDDOR incidents
- Conducting / Assisting other investigations where appropriate.

Appendix 4.1: **INCIDENT FLOW DIAGRAM**



Appendix 4.2 Root Cause Analysis

Root cause analysis is a structured investigation that aims to identify the true cause(s) of a problem, via its contributory factors, and the actions necessary to eliminate it.
The principles are useful in the investigation of any incident but it is particularly important in the formal investigation of a Serious/Significant Incident which requires a more comprehensive and structured approach.
A root cause is a fundamental cause which if resolved will eradicate, or significantly contribute to the resolution of the identified problem to which it is attached, both within the local department and more widely across the organisation.
A variety of management 'tools' such as 'cause and effect charts' a 'fishbone diagram' can be applied to this process but the simplest, traditional approach is known as the 'Five Whys' Model. This can be used:

- For general analysis of the cause of any incident
- More formally, usually in a multi-disciplinary team setting, when contributory factors are discussed and in depth causal factors are written down and traced back until a clear understanding of the root cause is reached.

What are the benefits of root cause analysis?

- Dangerous assumptions are avoided
- Investigators avoid jumping to conclusions
- The logic required highlights questions, and facts that need to be obtained
- The investigation is unavoidably thorough
- It reduces the temptation to blame
- It identifies action steps or recommendations
- Conclusions can be presented in a rational manner

The lead Investigator must either trained in or is directly supported by someone who been trained in RCA techniques.

Appendix 4.3 EXAMPLES OF INCIDENT AND NEAR MISS TYPES TO BE REPORTED

(Incident: is any event or circumstance that led to unintended or unexpected harm, loss or damage.)

The list is not exhaustive

Non-Clinical	▪ Contact with moving machinery or material being machined ▪ Hit by a moving, flying or falling object ▪ Hit by a moving vehicle ▪ Hit by something fixed or stationary ▪ Injured while handling, lifting or carrying ▪ Slipped, tripped or fell on the same level ▪ Fell from height ▪ Trapped by something collapsing ▪ Drowned or asphyxiated ▪ Exposed to or in contact with a harmful substance ▪ Exposed to fire ▪ Exposed to an explosion ▪ Contact with electricity or an electrical discharge ▪ Injured by an animal ▪ Physically assaulted by a person ▪ Stress ▪ Verbal abuse
Clinical	▪ Patient Absconds ▪ Blood Transfusion issue ▪ Consent issue ▪ Diet inappropriate ▪ Discharge or transfer problem ▪ Imaging problem ▪ Inappropriate behavior (related to clinical condition) ▪ Infection Control issue ▪ Medication Incident ▪ Medical Device issue ▪ Obstetric incident ▪ Problem with records ▪ Theatre Processes ▪ Treatment problem ▪ Self harm ▪ Specimen issues ▪ Suicide

Appendix 4.4 Risk Matrix and Severity / Impact Definitions

Likelihood	Impact/Consequences				
	Negligible	Minor	Moderate	Major	Extreme
Almost Certain	Medium	High	High	V High	V High
Likely	Medium	Medium	High	High	V High
Possible	Low	Medium	Medium	High	High
Unlikely	Low	Medium	Medium	Medium	High
Rare	Low	Low	Low	Medium	Medium

Descriptor	Negligible	Minor	Moderate	Major	Extreme
Patient Experience	Reduced quality of patient experience/clinical outcome not directly related to delivery of clinical care.	Unsatisfactory patient experience/ clinical outcome directly related to care provision – readily resolvable.	Unsatisfactory patient experience/ clinical outcome; short term effects – expect recovery <1wk.	Unsatisfactory patient experience/ clinical outcome; long term effects – expect recovery >1wk.	Unsatisfactory patient experience/ clinical outcome; continued ongoing long term effects
Objectives / Project	Barely noticeable reduction in scope, quality or schedule.	Minor reduction in scope, quality or schedule.	Reduction in scope or quality of project; project objectives or schedule.	Significant project over-run.	Inability to meet project objectives; reputation of the organisation seriously damaged.
Injury	Adverse event leading to minor injury not requiring first aid.	Minor injury or illness, first aid treatment required.	Agency reportable, e.g. Police (violent and aggressive acts). Significant injury requiring medical treatment and/or counselling.	Major injuries/long term incapacity or disability (loss of limb) requiring medical treatment and/or counselling.	Incident leading to death or major permanent incapacity.
Complaints / Claims	Locally resolved verbal complaint.	Justified written complaint peripheral to clinical care.	Below excess claim. Justified complaint involving lack of appropriate care.	Claim above excess level. Multiple justified complaints.	Multiple claims or single major claim. Complex justified complaint

Service / Business Interruption	Interruption in a service which does not impact on the delivery of patient care or the ability to continue to provide service.	Short term disruption to service with minor impact on patient care.	Some disruption in service with unacceptable impact on patient care. Temporary loss of ability to provide service.	Sustained loss of service which has serious impact on delivery of patient care resulting in major contingency plans being invoked.	Permanent loss of core service or facility. Disruption to facility leading to significant "knock on" effect
Staffing and Competence	Short term low staffing level temporarily reduces service quality (< 1 day). Short term low staffing level (>1 day), where there is no disruption to patient care.	Ongoing low staffing level reduces service quality. Minor error due to ineffective training/implementation of training.	Late delivery of key objective / service due to lack of staff. Moderate error due to ineffective training/implementation of training.Ongoing problems with staffing levels.	Uncertain delivery of key objective/ service due to lack of staff. Major error due to ineffective training/ implementation of training.	Non-delivery of key objective/service due to lack of staff. Loss of key staff. Critical error due to ineffective training/ implementation of training.
Financial (including damage / loss / fraud)	Negligible organisational/ personal financial loss. (£<1k). (NB. Please adjust for context)	Minor organisational/personal financial loss (£1-10k).	Significant organisational/personal financial loss (£10-100k).	Major organisational/personal financial loss (£100k-1m).	Severe organisational/personal financial loss (£>1m).
Inspection / Audit	Small number of recommendations which focus on minor quality improvement issues.	Recommendations made which can be addressed by low level of management action.	Challenging recommendations that can be addressed with appropriate action plan.	Enforcement action. Low rating. Critical report.	Prosecution. Zero rating. Severely critical report.
Adverse Publicity / Reputation	Rumours, no media coverage. Little effect on staff morale.	Local media coverage – short term. Some public embarrassment. Minor effect on staff morale/public attitudes.	Local media – long-term adverse publicity. Significant effect on staff morale and public perception of the organisation.	National media/adverse publicity, less than 3 days. Public confidence in the organisation undermined. Use of services affected.	National/international media/adverse publicity, more than 3 days. MSP/MP concern (Questions in Parliament). Court Enforcement. Public Inquiry/ FAI.

Appendix 4.5 RIDDOR REPORTING

To be reported to HSE via Health and Safety Services.

Staff Injury Injury arising out of work activity, which results in the person being incapacitated for work for more that 7 consecutive days, not counting the day of the accident but including any days which would not have been working days.	**Must be reported to the HSE within 15 working days from the date of the incident.**
Specified Injury Injury arising out of work activity which results in anyone suffering a specified major injury	**Must be reported to HSE immediately.**
Dangerous Occurrence Specified list of Dangerous Occurrences	**Must be reported to HSE immediately.**
Reportable Disease Must be diagnosed by a Medical Practitioner and confirmed in writing to Health and Safety Service Manager to then make RIDDOR Report.	**Once HSSM notified**

What is "an accident"?

In relation to RIDDOR, an accident is a discrete, identifiable, unintended incident which causes physical injury. This specifically includes acts of non-consensual violence to people at work.

Injuries themselves, eg "feeling a sharp twinge," are not accidents. There must be an identifiable event, external to the body which causes the injury, eg being struck by a falling object. Cumulative exposures to hazards which eventually cause injury (eg repetitive lifting) are not classed as "accidents" under RIDDOR.

What is meant by "work-related"?

RIDDOR only requires accidents to be reported if they arise "out of or in connection with work." The fact that an accident occurs at work premises does not, of itself, mean that the accident is work-related -there must be some indication that the work activity contributed to the circumstances of the accident. An accident should be considered as "work-related" if any of the following factors played a significant role:

the way the work was carried out;

any machinery, other plant, substances or equipment used for the work; or

the condition of the site or premises where the accident happened.

What are "reportable" injuries

The following injuries are reportable under RIDDOR when they result from a work-related accident:

Injuries to workers which result in their **incapacitation for more than 7 days**

Over-seven-day incapacitation of a worker

Accidents must be reported where they result in an employee or self-employed person being away from work, or unable to perform their normal work duties, for more than seven consecutive days as the result of their injury. This seven day period does not include the day of the accident, but does include weekends and rest days. The report must be made within 15 days of the accident.

Non-fatal accidents to non-workers (eg members of the public)

Accidents to members of the public or others who are not at work must be reported if they result in an injury and the person is taken directly from the scene of the accident to hospital for treatment to that injury. Examinations and diagnostic tests do not constitute 'treatment' in such circumstances.

There is no need to report incidents where people are taken to hospital purely as a precaution when no injury is apparent.

If the accident occurred at a hospital, the report only needs to be made if the injury is a 'specified injury' (see Below).

Exemptions

Accidents during medical or dental treatment, or during any examination carried out or supervised by a doctor or dentist.

Accidents involving the movement of a vehicle on a public road (other than those associated with: loading or unloading operations; work alongside the road such as road maintenance; escapes of substances from the vehicle; and accidents involving trains.)

Specified Injuries to Workers

a. fractures, other than to fingers, thumbs and toes

Bone fractures include a break, crack or chip. They are reportable when diagnosed or confirmed by a doctor, including when specified on a GP "fit note." In some cases, there may be no definitive evidence of a fracture (e.g. if an X-ray is not taken), but the injury will still be reportable if a doctor considers that a fracture is likely to have occurred. Self-diagnosed "suspected fractures" are not reportable.

b. amputation of an arm, hand, finger, thumb, leg, foot or toe

Amputation includes both a traumatic amputation injury at the time of an accident, and surgical amputation following an accident as a consequence of the injuries sustained.

c. any injury likely to lead to permanent loss of sight or reduction in sight in one or both eyes

Any blinding and injuries causing reduction in sight are reportable when a doctor diagnoses that the effects are likely to be permanent.

d. any crush injury to the head or torso causing damage to the brain or internal organs

Injuries to the brain or internal organs within the chest or abdomen are reportable when caused by crushing as result of an accident.

e. any burn injury (including scalding) which:

I. Covers more than 10% of the whole body's total surface area; or

II. Causes significant damage to the eyes, respiratory system or other vital organs

Burns which meet the above criteria are reportable irrespective of the nature of the agent involved, and so include burns caused by direct heat, chemical burns and radiological burns.

Medical staff may indicate the approximate proportion of skin suffering burn damage, and charts are often available in hospital burns units. In adults of working age, the *Rule of* Nines can help estimate the body surface area (BSA) affected:

Skin covering the head and neck: 9%
Skin covering each upper limb: 9%
Skin covering the front of the torso: 18%
Skin covering the rear of the torso: 18%
Skin covering each lower limb: 18%

If the BSA of a burn exceeds 15% in an adult, they are likely to require hospitalisation for intravenous fluid resuscitation.

Where the eyes, respiratory system or other vital organs are significantly harmed as a consequence of a burn, this is a reportable injury irrespective of the surface area covered by that burn. Damage caused by smoke inhalation is not included within this definition.

f. any degree of scalping requiring hospital treatment

Scalping is the traumatic separation or peeling of the skin from the head due to an accident, eg hair becoming entangled in machinery. Lacerations where the skin is not separated from the head are not included, nor are surgical procedures where skin removal is deliberate.

g. any loss of consciousness caused by head injury or asphyxia

Loss of consciousness means that the injured person enters a state where there is a lack of response , either vocal or physical, to people trying to communicate with them. The length of time for which a person remains unconscious is not significant in terms of whether an accident is reportable.

Asphyxia (lack of oxygen) may occur in situations where a person enters an oxygen-deficient atmosphere, such as a confined space, or are exposed to poisonous gases eg carbon monoxide.

h. any other injury arising from working in an enclosed space which:

I. leads to hypothermia or heat-induced illness or

II. requires resuscitation or admittance to hospital for more than 24 hours

An enclosed space includes any space which is wholly or partly enclosed to the extent that there is a significantly increased risk to the health and safety of a person within that space by virtue of its enclosed nature. This would include any confined space as defined by the Confined Spaces Regulations 1997, and would additionally include similar spaces where there is a foreseeable risk of hypothermia (eg a cold store.)

Nb. Hypothermia is not a specified risk within the meaning of the Confined Spaces Regulations.
Hypothermia and heat-induced illness include situations where a person suffers an adverse reaction (the physical injury) to intense heat or cold acting on the body, such that they require assistance from another person.

Situations where the extent of an injury is unclear
In some instances, employers and self-employed workers may not be in a position to know the full extent of an injury, eg when a prognosis has not yet been established in relation to an eye injury, or when efforts are being made to treat an injured limb which may ultimately require surgical amputation. In such situations, there is no requirement for reports of specified injuries to be made on a precautionary basis. It is likely that the accident will in any case require reporting due to the injured person being incapacitated for more than 7 days. The enforcing authority should be notified or updated as soon as a specified injury has been confirmed

Reportable Diseases

Diagnosis by a Doctor
A reportable disease must be diagnosed by a doctor. Diagnosis includes the identification of any new symptoms, or the identification of any significant worsening of existing symptoms. For employees, the diagnosis should be provided in writing to the employer. Doctors are encouraged to use standard wording when describing reportable diseases on written statements which they make out for their patients.

Regulation 8 requires employers and self-employed people to report cases of certain diagnosed reportable diseases which are linked with occupational exposure to specified hazards. The reportable diseases and associated hazards are set out below.

Carpal Tunnel Syndrome: where the person's work involves regular use of percussive or vibrating tools.

Cramp of the hand or forearm: where the person's work involves prolonged periods of repetitive movement of the fingers, hand or arm.

Occupational dermatitis: where the person's work involves significant or regular exposure to a known skin sensitiser or irritant.

Hand Arm Vibration Syndrome: where the person's work involves regular use of percussive or vibrating tools, or the holding of materials which are subject to percussive processes, or processes causing vibration.

Occupational asthma: where the person's work involves significant or regular exposure to a known respiratory sensitiser

Tendonitis or tenosynovitis: in the hand or forearm, where the person's work is physically demanding and involves frequent, repetitive movements.

Biological agents

All diseases and any acute illness which requires medical treatment must be reported when it is attributable to a work-related exposure to a biological agent. The term biological agent is defined within the Control of Substances Hazardous to Health Regulations 2002 [COSHH] and means a micro-organism, cell culture, or human endoparasite which may cause infection, allergy, toxicity or other hazard to human health. Work with hazardous biological agents is subject to specific provisions within COSHH.

Work-related exposures to biological agents may occur as a result of:

An identifiable event, such as the accidental breakage of a laboratory flask, accidental injury with a contaminated syringe needle or an animal bite; or

Unidentified events, where workers are exposed to the agent without their knowledge. (eg where a worker is exposed to legionella bacteria whilst conducting routine maintenance on a hot water service system.)

A report should be made whenever there is reasonable evidence suggesting that the disease was likely to have been caused by a work-related exposure. The doctor may indicate the significance of any work-related factors when communicating their diagnosis.

Further guidance on occupational illnesses associated with biological agents is provided at: http://www.hse.gov.uk/biosafety/infection.htm

Minor infections which are common in the community such as colds, bronchitis or stomach upsets cannot generally be attributed to work-related exposures to biological agents, and thus are generally not reportable. However, where there is reasonable evidence of a work-related cause, such as inadvertent contact with the infectious agent during laboratory work, a report should be made.

Acute illnesses requiring medical attention must be reported when they result from a work-related exposure to a biological agent, including its toxins or any infected material.

Guidance on Dangerous Occurrences

The list of dangerous occurrences in Schedule 2 of the RIDDOR Regulations (which lists a total of 27 different DO's) is designed to obtain information primarily about incidents which have a high potential to cause death or serious injury, but which happen relatively infrequently. Collecting the information gives the enforcing authorities the opportunity to learn about the circumstances in which they occur and about their causes. This provides valuable information which both regulators and business can use to help prevent accidents.

Several types of dangerous occurrence require reporting in circumstances where the incident has the potential to cause injury or death. This assessment does not require any complex analysis, measurement or tests, but rather for a reasonable judgement to be made as to whether the circumstances gave rise to a real, rather then notional, risk. Such judgement allows for prompt reporting, and ensures that valuable information is not lost.

For clarity, the guidance below is focussed to those DO's most likely to occur in our premises. It is also worthy to note the majority are related to Facilities / Estates related activities and therefore that Directorate will deal with reporting requirements:

Lifting equipment

The collapse, overturning or failure of any load-bearing part of any lifting equipment, other than an accessory for lifting.

The definition covers the collapse or overturning of any lifting equipment, or the failure of any load-bearing part, whether used for lifting goods, materials or people. It does not cover the failure of ancillary equipment, such as electric operating buttons or radius indicators, or failures of lifting accessories, such as chains and slings.

Failure in this context refers to components which suffer mechanical breakdown during the normal operation of the lifting equipment, as opposed to accidental or deliberate damage.

Incidents involving cranes must be reported irrespective of the nature of the work being done, and reports must not be restricted to those involving lifting and lowering. For example, a collapse or overturning when a machine is being used for demolition activities must be included.

Lifting equipment includes machinery such as bored piling rigs and percussion pilings rigs

Pressure systems

The failure of any closed vessel, its protective devices or of any associated pipework (other than a pipeline) forming part of a pressure system as defined by regulation 2(1) of the Pressure Systems Safety Regulations 2000, where that failure could cause the death of any person.

The definition covers the failure of a pressure system (other than a pipeline) with the potential to cause the death of any person. It applies to any such vessel whatever its contents.

Incidents requiring notification due to having 'the potential to cause the death of any person'. This includes scaldings or burns arising from contact with steam, hot water, other hot liquids, liquors, hot products or hot substances, and immersion in liquids or splashing with toxic chemicals.

Other examples of incidents which might be notifiable as having 'potential to cause death' would be those where a person was either struck by, or could have been struck by, a projectile emitted from the failure of a closed vessel or pipeline under pressure. In the event of an explosion, this might be a fixture or component, the vessel or pipeline itself, or a secondary projectile arising from the destruction of structures close to the vessel, for example falling debris such as masonry or window glass, or shrapnel from buildings or other structures.

Overhead electric lines

Any plant or equipment unintentionally coming into:

a. contact with an uninsulated overhead electric line in which the voltage exceeds 200 volts; or

b. close proximity with such an electric line, such that it causes an electrical discharge

Examples of the kinds of incident which are covered and which must be notified and reported are:

(a) accidental contact of a mobile crane or a vehicle with an overhead line;

(b) accidental contact with an overhead line by something being carried or lifted; and

(c) the collapse of something (eg an engineering structure) across an overhead line.

Electrical incidents causing explosion or fire

Any explosion or fire caused by an electrical short circuit or overload (including those resulting from accidental damage to the electrical plant) which either:

a. results in the stoppage of the plant involved for more than 24 hours; or

b. causes a significant risk of death.

Where the failure of an item of electrical equipment (including as a result of accidental damage) results in a fire or explosion, the failure is reportable as a dangerous occurrence if the equipment concerned is rendered unusable for over 24 hours, or if the occurrence was one with the potential to cause the death of any person. The incident is reportable even if the system in which the damaged equipment was installed is put back into service using new equipment within 24 hours. In such a case an assessment should be made of how long a repair to the damaged equipment would have taken had it been attempted.

Repair time does not include incidental time delays such as those associated with travelling to repair plant in remote locations, or with sourcing parts.

Biological agents

Any accident or incident which results or could have resulted in the release or escape of a biological agent likely to cause severe human infection or illness.

Severe human infection or illness can be regarded as that caused by biological agents in Hazard Groups 3 and 4 as defined in COSHH 2002 Schedule 3, paragraph 2(2) and as set out in the latest edition of the Management, design and operation of microbiological containment laboratories11 or otherwise being agents classified provisionally by an employer as being in one of those groups (COSHH Schedule 3, paragraph 2(2)). More specialised guidance on the application of this and other aspects of RIDDOR in the healthcare sector is available from HSE.

Collapse of scaffolding

The complete or partial collapse (including falling, buckling or overturning) of:

a. a substantial part of any scaffold more than 5 metres in height;
b. any supporting part of any slung or suspended scaffold which causes a working platform to fall (whether or not in use); or

c. any part of any scaffold in circumstances such that there would be a significant risk of drowning to a person falling from the scaffold.

The incidents covered here are those involving any 'scaffold'. This includes any tower, trestle, slung or suspended scaffold.

The figure of 5 metres used in relation to the height of scaffolding refers to the height of the scaffolding itself from whatever base and not necessarily to the distance between the top of the scaffold and the ground.

Incidents involving the failure of the suspension arrangements of slung or suspended scaffolds are covered if the failure causes a working platform or cradle to fall. Reportable failures of suspension arrangements would include failures of outriggers, roof rigs or suspension ropes or winches.

Structural Collapse

The unintentional collapse or partial collapse of:

a. any structure, which involves a fall of more than 5 tonnes of material; or

b. any floor or wall of any place of work

arising from, or in connection with, ongoing construction work (including demolition, refurbishment and maintenance), whether above or below ground.

The unintentional collapse or partial collapse of any falsework.

Only structural collapses associated with ongoing construction, maintenance and demolition work are are required to be reported under paragraph 23. However, the paragraph 24 requirement to report unintentional collapses of falsework applies whether construction work is taking place or not.

'Falsework' means any temporary structure used to support a permanent structure during its erection and until that structure becomes self-supporting.

Explosion or fire

Any unintentional explosion or fire in any plant or premises which results in the stoppage of that plant, or the suspension of normal work in those premises, for more than 24 hours.

This definition covers serious fires and explosions at work premises. Examples of the type of incident which would be reportable are:

any fire at a factory or office building, causing the suspension of work activities for more than 24 hours; or

an explosion involving dust in a pneumatic conveying system, causing stoppage of the conveying plant for more than 24 hours.

Release of flammable liquids and gases

The sudden, unintentional and uncontrolled release:

a. inside a building
   i. of 100 kilograms or more of a flammable liquid;
   ii. of 10 kilograms or more of a flammable liquid at a temperature above its normal boiling point;

iii. of 10 kilograms or more of a flammable gas; or

b. in the open air, of 500 kilograms or more of a flammable liquid or gas.

This definition is designed to cover releases of flammable liquids or gases (eg due to the sudden failure of a storage vessel) where the release, if ignited, would cause a major explosion or fire. “Flammable” includes those substances classified as highly flammable or extremely flammable.

Hazardous escapes of substances

The unintentional release or escape of any substance which could cause personal injury to any person other than through the combustion of flammable liquids or gases.

The substances covered by this definition may be in any form: liquid, solid (eg powder), gaseous or vapour and may include, for example:

substances which may be hazardous to health (eg asbestos, phosgene, toluene diisocyanate);

substances which may be either corrosive or potentially hazardous by virtue of their temperature or pressure (eg nitric acid, molten metal, liquid nitrogen);

This definition includes incidents which present a fire or explosion hazard (eg combustible powders,) but not in relation to releases of a flammable liquids or gases, where the relevant thresholds in paragraph 26 above are not exceeded.

Examples of the kinds of incident covered by the definition are escapes arising from the failure or breakage of plant, pipes, equipment or apparatus; failures of process control; the operation of a relief valve or bursting disc where the escaping substance is not safely controlled or directed; and spillages from containers and equipment.

Releases from plant etc during the normal course of operation or maintenance (eg during sampling, packaging or draining of lines) that are sufficiently well controlled to ensure that no person is put at risk would not be reportable.

In some cases, the decision as to whether or not an incident is reportable will be straightforward, for example if the incident results in a person being exposed to a hazardous substance at a level which exceeds established safe limits. (eg a Workplace Exposure Limit.)

However, most incidents will require judgement. Various factors are relevant including: the nature of the substance and its chemical, physical and toxicological properties, the amount which escaped and its dispersal, and whether people were or could foreseeably have been exposed to a significant risk as a consequence of the escape.

If any doubt exists whether an incident is reportable or not please seek advice from the Health and Safety Service.

Appendix 4.6 Roles within DATIX WEB.

Role	Tasks	Staff type	Needs Training?	Must login?
Reporter	**Completes DIF1 form**	**Anyone**	**No**	**No**
Reviewer/ Deputy Reviewer	**Reviews data entered by Reporter, links contacts, marks incident as Reviewed**	**Team Lead / Ward Manager**	**Yes**	**Yes**
Approver/ (optional) Deputy Approver	**Checks investigation and actions are satisfactory, Approves and closes incident**	**Senior line manager – usually Lead Nurse or CSM**	**Yes**	**Yes**
Secondary Approver	**Oversight of incidents in area of responsibility**	**Senior manager - GM, Head of Nursing, Clinical Director**	**Yes**	**Yes**
Investigator(s)	**Can be named to allow view of any incident. May update/add details**	**Any Datix user as required**	**Possibly**	**Yes**

There are 5 main roles within Datix

Reporter – the person that completes the DIF1 form (Datix incident form). This can be anyone who has access to staffnet and no login is required. The majority of staff can use this form without any training. The Form is designed to be user friendly, so if you do use the internet for any reason at home then the layout and functionality of the form will be familiar.

Reviewer/Deputy Reviewer – usually a ward or dept manager the reviewer is responsible for reviewing the data that has been entered, complete some additional mandatory fields and link the contacts. Formal training is offered and must log into the system. Deputy provides cover when the reviewer is on annual leave/sick leave.

Approver/Deputy Approver – gives second check of data entered, checks any investigation information that has been entered and gives the incident final approval status and closure.

Secondary approver - has access to all incidents in area of responsibility. Usually senior management.

Investigators – can be added by a reviewer or approver to give access to incidents that are outwith their normal permissions. Used for investigations that may cross directorates. Also used for clinical nurse specialists i.e. Tissue Viability Nurse can be added to incidents as necessary.

Scottish Hospital Technical Note 6

The Safe Operation and Maintenance of Thermostatic Mixing Valves

The production of this document was jointly funded by the Scottish Executive Health Department and the NHSScotland Property and Environment Forum.

NHSScotland, P&EFEx, June 2001

Contents

Foreword

This Scottish Hospital Technical Note has been prepared to address the important issues relating to the safe operation and maintenance of thermostatic mixing valves.

All personnel should be made fully aware of their safety responsibilities, as required by statute, and they should be given the necessary information and training to properly understand them and carry them out. This also applies to organisations and individuals to whom work has been contracted. All staff should be familiar with the procedures, and encouraged to report circumstances or changes in circumstances that may increase the risk of scalding.

Management should make available guidance on the safe operation and practice of all activities undertaken by their own staff and others.

The Health and Safety Executive and others are thanked for their contributions in compiling this document.

Note: Details of approved TMV3 valves are available to Forum members through the Property and Environment Forum web site.

1. Introduction

The importance of having a management system in place to ensure the safe delivery of hot water cannot be over emphasised as the consequences of a system failure can be fatal. This document is designed to assist implementation of the management of thermostatic mixing valves (TMVs). This Scottish Hospital Technical Note provides information for the assessment, selection, installation and maintenance of thermostatic mixing valves.

Within the NHS over the past 10 years there have been more than 62 scalding incidents, 40 of which proved fatal (UK figures). A breakdown shows that 28 fatalities were from scalding by water and 12 were from hot surfaces. Many of these incidents involved the care of the elderly and could have been avoided

Investigations into recent incidents in Scotland involving Thermostatic Mixing Valves (TMVs) have identified the following common problems:

- the installation of the TMVs was not in accordance with the manufacturers' recommendations;
- the normal operating pressure of the cold water supply fell below the manufacturers' recommended limits;
- the minimum required temperature difference between the hot water supply and the blended water as required by the valve manufacturer or supplier was not met or maintained under normal operating conditions;
- the TMVs were not protected from debris during the flushing of the pipework systems;
- estates department staff failed to follow proper maintenance instructions to take and record the temperature of the water being delivered. If this had been done there would have been a history of malfunctioning valves that should have alerted the nominated person to the problem;
- the estates management failed to monitor and manage the maintenance being carried out, and in particular did not seek out the temperature records and reports of the TMV maintenance nor undertake a review of the system or procedures;
- the staff undertaking the maintenance had not been formally trained in the maintenance of the valves;
- requests by the Estates Manager to replace the TMVs were not sanctioned by the Trust management.

Throughout the investigations and enquiries the Health and Safety Executive (HSE) Inspectors were involved as enforcing authorities. HSE inspectors are available to advise and provide further information when required. NHS Trusts should have arrangements in place to provide a safe environment for the delivery of healthcare, and ensure that all high risk areas are identified and TMVs have been installed or are scheduled to be installed.

NHS Trusts should ensure that all hot water outlets, to which patients, residents and visitors have access and which may be considered to present a hazard, are fitted with a Thermostatic Mixing Valve (TMV). The TMV should comply with NHS Model Engineering Specification D08, Type 3 and with Scottish Health Guidance Note, ‘Safe’ hot water and surface temperatures.

This Scottish Hospital Technical Note has been produced in response to the findings above and the demand from Trusts for guidance in the safe management of TMVs. It gives examples of log sheets, reporting forms and valve specific guidance, which may form part of a successful maintenance system.

2. Definitions

The definitions below relate to this document only.

Auditing is the structured process of collecting independent information on the efficiency, effectiveness and reliability of the total safety management system and drawing up plans for corrective action.

Hazard means the potential to cause harm, including ill health and injury; damage to property, plant, products or the environment; production losses, or increased liabilities.

Planning is used to describe the process by which the objectives and methods of implementing the health and safety policy are decided. It is concerned with allocating resources (e.g. money, time or effort) to achieve objectives and decide priorities.

Reviewing is used to describe activities involving judgements about performance, and decisions about improving performance. Reviewing is based on information from "auditing" activities.

Risk means the likelihood that a specified undesired event will occur due to the realisation of a hazard by, or during work activities, or by the products and services created by work activities.

Thermostatic mixing valve is a valve, with one or more outlets, which mixes hot and cold water and automatically controls the mixed water to a user selected or pre-set temperature.

NOTE: If provision for controlling the flow rate between no flow and maximum flow is included this may be by means of differential motion of the temperature control or by a separate control.

There are three types of mixing valve defined in Scottish Health Guidance Note *'Safe' hot water and surface temperatures*.

Type 1: a mechanical mixing valve, or tap including those complying with BS 1415: Part 1, or BS 1286: 1999 Sanitary Tapware, Low pressure mechanical mixing valves.

Type 2: a thermostatic mixing valve, generally complying with the previous issue of Health Guidance Note *'Safe' hot water and surface temperatures* issued in 1992 and BS 1287: 1999 Sanitary Tapware, Low pressure thermostatic mixing valves.

Type 3: a thermostatic mixing valve with enhanced thermal performance complying with NHS Model Engineering Specification D08, Thermostatic Mixing Valves (Healthcare Premises).

3. Management responsibilities

It is the responsibility of Management (Owners and Occupiers) of healthcare premises to ensure that their premises comply with all statutes.

Employers have a duty under the Health and Safety at Work etc Act 1974, to ensure, so far as reasonably practicable, the health, safety and welfare of their patients, employees, residents and visitors and members of the public. It is incumbent upon both owners and occupiers of premises to ensure that there is a management regime for the proper design, installation and maintenance of plant, equipment and systems, including planning, measuring, auditing and reviewing.

All personnel should be aware of their safety responsibilities, as required by statute, and they should be given the necessary information and training to properly understand and carry them out. This also applies to organisations and individuals with whom the work is contracted.

Management should make available guidance on the safe operation and practice of all activities undertaken by themselves or others under contract.

Management should be satisfied that a person intending to fulfil any of the staff functions below is able to prove that they possess sufficient skills, knowledge and experience to be able to perform safely the designated tasks.

4. Designated staff functions

Note: The following definitions relate only to the roles outlined in this document.

Nominated Person

A person, possessing adequate professional knowledge and with appropriate training, nominated in writing by management to devise and manage the necessary procedures for thermostatic mixing valves in healthcare premises. The person will be required to liaise closely with other professionals in various disciplines. In addition, the person should possess a thorough knowledge of the water systems for which he/she is responsible and of the management of hospital water systems including all relevant guidance.

This person's role, in association with maintenance staff, involves:

- advising on the potential areas of risk and identifying where systems do not comply with current guidance;
- liaising with other departments and advising on the procedures necessary to ensure acceptable water safety;
- monitoring the implementation and efficiency of those procedures;
- identifying and approving any changes to those procedures;
- ensuring that equipment is properly installed;
- ensuring that adequate operating and maintenance instructions exist and adequate records are kept.

Implementation of an effective maintenance policy must incorporate the preparation of fully detailed operating and maintenance documentation including a log sheet system. The 'Nominated Person' should appoint a deputy to whom delegated duties may be given. The deputy should act for the Nominated Person on all occasions when the Nominated Person is unavailable.

The Nominated Person and deputy may also be the Nominated Persons for Legionellae. The appointment of an engineer as the Nominated Person is appropriate in that the responsibilities may extend to the operation and maintenance of associated plant.

It is recognised that the Nominated Person cannot be a specialist on all matters and they should obtain the support of specialists in specific subjects such as water treatment and microbiology where appropriate.

Maintenance Technician/Estates Officer

A person who, in the opinion of the Nominated Person, has sufficient technical knowledge and the experience necessary to plan and control the maintenance and routine testing of the thermostatic mixing valves.

Tradesperson

A person who is appointed by the Nominated Person to carry out, under the control of the maintenance technician, work on the thermostatic mixing valves.

Contractor

The person or organisation designated by management to be responsible for the supply, installation and maintenance of thermostatic mixing valves. The contractors' staff should have the skills appropriate to the work being carried out as detailed above.

5. Thermostatic mixing valves selection

Trust Management, under the Health & Safety at Work etc Act, has a Duty of Care to demonstrate, through risk assessment, that they are providing a safe environment, in the selection and application of TMVs.

All hot water outlets to which patients, residents, and visitors have access, and which may be considered to present a hazard, should be fitted with a valve complying with Model Engineering Specification D08 Type 3, as appropriate, and Scottish Health Guidance Note; 'Safe' hot water and surface temperatures. The selection of the TMV should be preceded by a risk assessment. The risk assessment should, where necessary, be undertaken in conjunction with medical and nursing staff responsible for the area to be assessed.

NOTE: Where vulnerable patients have access to whole body immersion i.e. baths and showers, TMVs independently certified as complying with MES D08 Type 3 are strongly recommended. The type of TMV fitted to all other hot water supplies where patients, residents or visitors may be at risk, should be determined by risk assessment. In all areas where risk assessments have shown that TMVs are not presently required, the hot water outlets should be clearly labelled “VERY HOT WATER” with fixed notices.

Care should be taken when installing either temporary or permanent installations, such as Birthing Pools, Hydrotherapy Facilities etc., to ensure that risk assessments are undertaken and TMVs fitted, tested and maintained as necessary.

TMV3 Designations – Table 1

The designations below are as specified in NHS Model Engineering Specification (MES) D08.

Application	Designation	Hot & Cold Water Static Pressure	Hot & Cold Water Flow Pressures	Supply Temp. °C		Mixed Water Temperature
				Hot	Cold	
Bidet	LP-B or BE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	38°C Max
(BE Bidet Economy)	HP-B or BE	10 bar	1 to 5 bar	52 - 65	5 - 20	38°C Max
Washbasin	LP-W or WE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(WE Washbasin Economy)	HP-W or WE	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Shower	LP-S or SE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(SE Shower Economy)	HP-S or SE	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Shower/Bath (41°C Fill)	LP-D41	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max (See Note 3)
(D Diverter)	HP-D41	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max (See Note 3)
Bath (41°C Fill)	LP-T41	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(T Tub)	HP-T41	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Bath (44°C Fill)	LP-T44	10 bar	0.2 to 1 bar	52 - 65	5 - 20	44°C Max
(T Tub)	HP-T44	10 bar	1 to 5 bar	52 - 65	5 - 20	44°C Max
Bath (46°C Fill)	LP-T46	10 bar	0.2 to 1 bar	52 - 65	5 - 20	46°C Max
(T Tub)	HP-T46	10 bar	1 to 5 bar	52 - 65	5 - 20	46°C Max

NOTE 1: The operational parameters of the TMVs should be confirmed by the manufacturers and comply with current guidance.

NOTE 2: Should the hot water supply temperature fall below the manufacturers' minimum required temperature, there will be an increased risk of scalding if the cold water supply fails.

NOTE 3: Where a mixing valve has 2 outlets, to a shower and bath, which do not discharge simultaneously (i.e. the outlets are supplied through a diverter), the thermostatic mixing valve shall be set to discharge at the shower temperature, this being the lower temperature of the application.

6. Nursing staff and TMVs

Nursing staff should be involved from the beginning of the risk assessment process to establish the need, type and operational requirements of TMVs.

The risk assessment process should address the hazard of hot water and the risks to patients, residents, staff and visitors. The level of risk should be determined by a team consisting of nursing, estates and health and safety representatives who should agree the appropriate valve for the application. It should be noted that the risk assessment and valve selection should take account of the maintenance requirements.

To ensure the risks are minimised nursing staff should be aware of the Trust health and safety procedures relating to TMVs and their contribution to the safe operation of the hot water services. The Infection Control Nurse may also be involved in the risk assessment process as appropriate.

Nursing staff, where patient whole body immersion takes place, should complete a bathing log sheet, such as that shown on page 13.

Note: There should be a suitable thermometer, for measuring the temperature of the bath water, available in all patient bath and shower rooms. Staff should be trained in the use of these thermometers, the temperatures permitted and the recording procedures adopted by the Trust.

Model bathing log sheet

NHS Trust

HOSPITAL…… **WARD**…… **Room No**……

BATH/SHOWER LOCATION ……

DATE	TIME	PATIENT'S NAME	WATER TEMPERATURE BEFORE IMMERSION	BATHING SUPERVISED Yes/No	SIGNATURE

If it is suspected that the Thermostatic Mixing Valve is allowing the discharge water to run outwith the advised temperature limits you must immediately advise the Estates Department and the Nurse Manager.

Contact Telephone Numbers: ……

7. Pre Installation pressure test records

Model pressure test report form

Prior to the installation of a TMV, records of the installed pipework and water systems should be examined to ensure that the correct valve is selected for the location. Where this information is unavailable it is recommended that pressure tests are taken at the valves proposed location to establish the pressure variations under probable operational conditions.
The following readings should be recorded at the inlet to the TMV.

This form should be used to establish that the hot and cold water pressure is within the range specified by TMV manufacturer.

P1	-	HOT WATER SUPPLY STATIC PRESSURE	P5	-	COLD WATER SUPPLY STATIC PRESSURE
P2	-	HOT WATER SUPPLY FLOW PRESSURE	P6	-	COLD WATER SUPPLY FLOW PRESSURE
P3	-	HOT WATER SUPPLY FLOW PRESSURE WITH HOT WATER TAP TO BATH OR WHB FULLY OPEN	P7	-	COLD WATER SUPPLY FLOW PRESSURE WITH COLD WATER TAP TO BATH OR WHB FULLY OPEN
P4	-	HOT WATER SUPPLY FLOW PRESSURE WITH TWO OTHER WATER SUPPLIES FULLY OPEN	P8	-	COLD WATER SUPPLY FLOW PRESSURE WITH TWO OTHER COLD WATER SUPPLIES FULLY OPEN

Date	Valve Details and Exact Location	P1	P2	P3	P4	P5	P6	P7	P8	FLOW RATE	TEMPERATURE HOT	TEMPERATURE COLD	COMMENTS & SIGNATURE
		kPa	kPa	kPa	kPa	kPa	kPa	kPa	kPa	l/sec	°C	°C	

8. Installation and commissioning of TMVs

The Nominated Person should be satisfied that the type of TMV is correct for the intended application. Details of the anti-backsiphonage devices (check valves) fitted should be available and recorded in the TMV Maintenance Log Sheet.

To comply with Water (Scotland) Act 1980 and BS 6700: 1987, all pipework should be flushed after installation, renewal or repair. Flushing kits supplied by the TMV manufacturer or other suitable means should be used to protect the TMV from debris. Facilities should also be incorporated to allow pressures and temperatures of the hot and cold water supplies to the TMV to be measured.

Commissioning

Prior to the commissioning of a TMV the commissioning guidance issued by the manufacturer should be consulted and the following checks should be undertaken to ensure that:

- The designation of the TMV complies with Model Engineering Specification (MES) D08, Scottish Health Guidance Note ‘Safe' hot water and surface temperatures and/or the stated policy of the Trust;
- The hot and cold water supply pressures are within the range of operating pressure for the TMV;
- The hot and cold water supply temperatures are within the range permitted for the TMV and comply with the appropriate guidance.

Commissioning tests for thermostatic mixing valves

It is recommended that all tests are recorded on TMV Maintenance Log Sheets such as that shown in Section II.

The tests should include the following:

a. the hot and cold water supply temperatures and pressures;

b. the TMV outlet temperature at the largest draw-off flow rate;

c. the TMV outlet temperature at a ¼ draw-off rate;

d. isolation of the cold water supply to the TMV to observe that no water flows from mixed water outlet at temperature greater than that shown in table;

e. records of the equipment, thermometer, etc. used for the measurements. The equipment used should be subject to regular certificated calibration.

Guide to maximum continuous temperatures during site tests

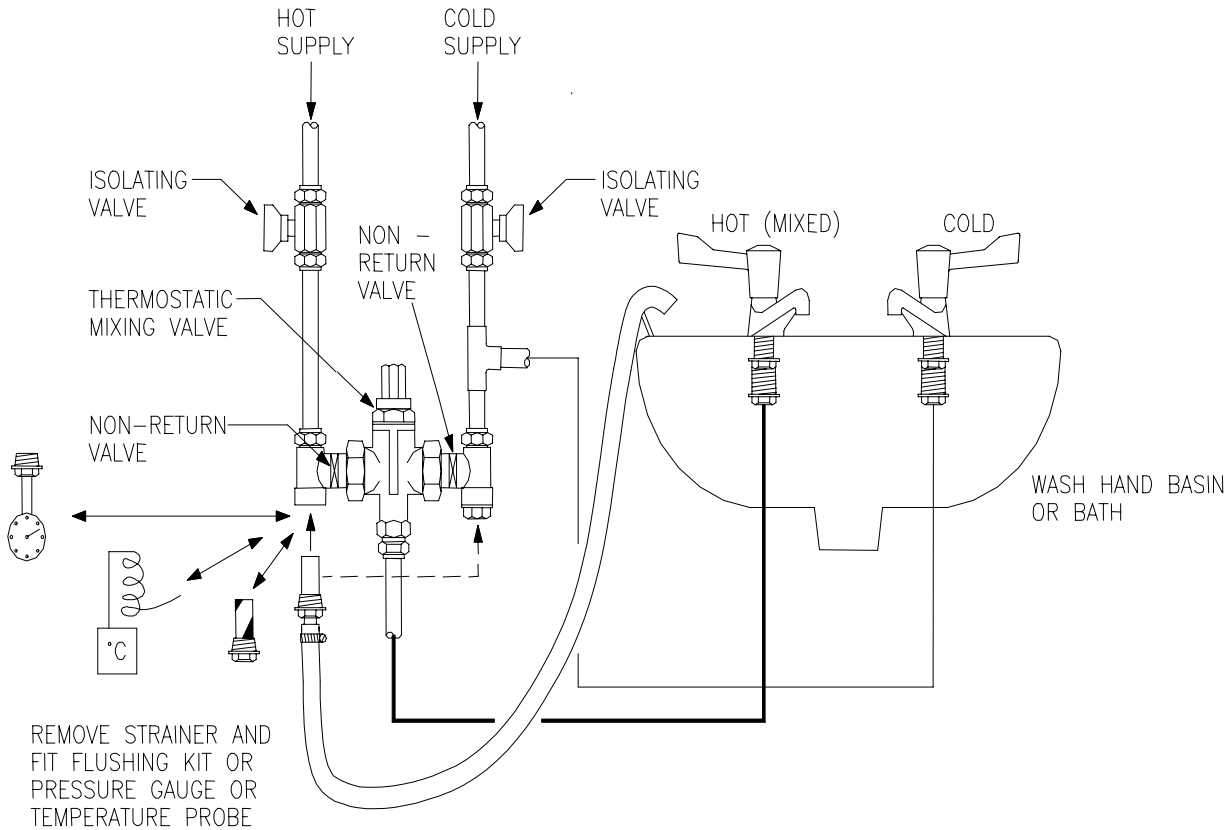
Table 2

Application	Mixed Water Temperature
Bidet	40°C
Shower	43°C
Washbasin	43°C
Bath (44°C Fill)	46°C
Bath (46°C Fill)	48°C

9. Typical TMV installation

The diagram shows a typical installation with the facility to measure the temperature and pressure of the hot and cold water supplies.

NOTE: Designers and installers are reminded that the location and access to the TMV and isolating valves is important for ease of testing and maintenance. However the TMV and valves should be protected from unauthorised interference.



TYPICAL INSTALLATION

10. Maintenance of TMVs

Only Maintenance Technicians or Tradespersons as defined in this document should carry out the testing, maintenance and/or repair of thermostatic mixing valves.

All protective safety equipment, measurement equipment, tools, manufacturer's guidance and the maintenance log sheet for the thermostatic mixing valve, must be readily available, as well as a skilled person trained in their operation and method of use.

Details of the Planned Preventative Maintenance procedures for the TMVs should be given in the maintenance job instructions and should be subject to regular review and update by the Nominated Person.

The Maintenance Technician and Tradesperson should be formally trained in the maintenance of all of the types of TMVs they will be expected to maintain. Training in the maintenance of TMVs is essential and often available from the manufacturer and/or supplier. An example of a manufacturer's maintenance guidance is contained in Appendix 1.

Maintenance tests

- measure and record the hot and cold water supply temperatures. They should be within the range shown in Table 1;
- measure and record the hot and cold water supply pressures. This test would normally only be done if there is reason to suspect that the pressures are different from that recorded in the log sheet;
- measure and record the water outlet temperature at full flow;
- measure and record the water outlet temperature at a approximately ¼ flow;
- isolate the cold water supply and observe that any water which flows from the outlet does not exceed the temperature shown in Table 2 and record the result.

NOTE: The maximum permissible hot water discharge temperature should not exceed the temperatures stated in Section 8. The cold water supply isolation must be 100%.

The cooling of the TMV will allow a small amount of water to pass at the set temperature.

- inspect and clean the strainers;

- inspect and test the operation of Non-Return Valves (Check Valves) following the manufacturer's instructions;
- inspect and test the isolating valves to ensure full closing and opening;
- record the results of the tests and any actions required as a result of the tests in the log sheet. Where a TMV fails a test, actions should be implemented to repair or replace the TMV;
- the final test after all parts have been replaced (including covers) or adjustments made, should be to measure and record the mixed water outlet temperature.

Frequency of tests and maintenance

The frequency of tests and maintenance should be determined by risk assessment and be regularly reviewed. The testing and maintenance frequency will be influenced by:

- The quality of the water supply;
- The location and frequency of use of the TMV;
- The quality of the TMV installed;
- The history and operational experiences of the TMV;
- The manufacturer's recommendations.

The nominated person should specify and regularly review the frequency and procedures for TMV maintenance inspections.

NOTE: Previous failures of TMVs have been attributed to inadequate maintenance. The importance of planned maintenance cannot be overstated. Maintenance is essential for patient safety.

NOTE: It is advised that TMVs are checked routinely. SHTM 2027 'Hot and Cold water supply, storage and mains service: operational management', recommends half yearly checks.

11. Model maintenance log sheets

……**NHS TRUST**

THERMOSTATIC MIXING VALVE (TMV) - Model Maintenance Log Sheet: Part 1

Hospital ……

Ward/Location ……

Asset/Valve No ……

Installation date ……

Manufacturer ……..

Model, Type and Designation of TMV ……

Point of Delivery…….. (see note 1)

Set Water Temperature at outlet…… ^{o}C (see note 2)

Location and Access to TMV…….(see note 3)

Location of hot and cold water isolation valves……

Hot & Cold Water supply pressure ……..

History/Other Information …….(see note 4)

1.	Point of delivery: bath, shower, washhand basin, bidet, etc.
2.	Set water temp at outlet: refer to Trust policy.
3.	Location/access of/to the TMV (under the washhand basin, panel access in the wall, ceiling or floor etc).
4.	History: state whether new, new replacement, refurbished, what parts were replaced, adjustment made etc.

TMV HISTORY – Model maintenance log sheet: Part 2

DATE	TEMP Before	Work Details Comments	TEMP After	Signature of Maintenance Technician

NOTE: When any work, checks or adjustments are made to the TMV **always** record the TMV water outlet temperature **BEFORE and AFTER** any work or adjustment.

12. Emergency procedures

In the event of a TMV failure or malfunction where the TMV water outlet temperature is not at the correct set temperature and cannot be immediately reset to the correct temperature, the TMV should immediately be taken out of use. All appropriate medical, nursing and support staff should be informed of this action and, where possible, the hot water supply to the TMV should be isolated, or access to the TMV outlet prevented (e.g. by locking the door).

The incident should be recorded in the TMV maintenance log sheet.

Note: There should be a written procedure detailing the actions to be taken should a TMV fail to operate. The procedure should include the following information:

1. Estates Department emergency contact telephone number for all times (i.e. during office hours, outwith office hours and at weekends).
2. Nurse Management point of contact telephone number.
3. Location of alternative safe bathing and hot water facilities.
4. Location of isolating valves for hot water.
5. Guidance on completing the hospital Incident Report Forms.

References

The Health and Safety at Work etc. Act 1974

Water (Scotland) Act 1980

Scottish Health Guidance Note; ‘‘Safe’ hot water and surface temperatures’ (1999)

National Health Service Model Engineering Specification (MES) D08 Thermostatic mixing valves (Healthcare premises)

Health & Safety Executive L8; Legionnaires’ disease - The control of legionella bacteria in water systems – Approved code of practice and guidance ISBN 0-7176-1772-6

Health & Safety Executive HS(G)65 Successful Health and Safety Management ISBN 0-11-885988-9

Scottish Hospital Technical Note 2; ‘Domestic Hot and Cold Water Systems for Scottish Health Care Premises’ (1999)

Scottish Hospital Technical Note 4; ‘General Purposes Estates and Facilities Model Safety Permit-to-Work System’ (1999)

Scottish Health Technical Memorandum 2040; ‘The Control of Legionellae in Healthcare Premises A Code of Practice’ (1999)

Scottish Health Technical Memorandum 2027; ‘Hot & Cold Water Supply, Storage & Mains Services’ (1999)

Hazard Notice HAZ (SC) 96/19 Domestic Hot Water Thermostatic Mixing Valves Review Maintenance Procedures and Records.

Safety Action Notice SAN(SC) 97/28 Thermostatic Mixing Valves Fail Safe Operation

Further Information is available from;

The NHSScotland,
Property and Environment Forum Executive,
Room 8:51
Graham Hills Building,
50 George Street,
Glasgow
G1 1QE.

Telephone: [redacted]

Hazard Co-ordinator,
Scottish Healthcare Supplies,
Trinity Park House,
South Trinity Road,
Edinburgh
EH5 3SH

Telephone: [redacted]

Health & Safety Executive,
Belford House,
59 Belford Road,
Edinburgh
EH4 3UE

Telephone: [redacted]

Health & Safety Executive,
375 West George Street,
Glasgow
G2 4LW

Telephone: [redacted]

The Secretary of the TMV3 Scheme,
WRc Evaluation & Testing Centre Limited,
Fern Close,
Pen-y-Fan Industrial Estate,
Oakdale Gwent,
NP1 4EH

Telephone: [redacted]

Appendix 1: Example of manufacturer's guidance for installation, commissioning, operating and maintenance of thermostatic mixing valves

Manufacturers of TMVs should provide comprehensive guidance for each designated type of TMV. The following notes have been prepared as an example of the information that should be available with a TMV3 type valve.

TMV3 Designations

Application	Designation	Hot & Cold Water Static Pressure	Hot & Cold Water Flow Pressures	Supply Temp. °C		Mixed Water Temperature
				Hot	Cold	
Bidet	LP-B or BE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	38°C Max
(BE Bidet Economy)	HP-B or BE	10 bar	1 to 5 bar	52 - 65	5 - 20	38°C Max
Washbasin	LP-W or WE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(WE Washbasin Economy)	HP-W or WE	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Shower	LP-S or SE	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(SE Shower Economy)	HP-S or SE	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Shower/Bath (41°C Fill)	LP-D41	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(D Diverter)	HP-D41	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Bath (41°C Fill)	LP-T41	10 bar	0.2 to 1 bar	52 - 65	5 - 20	41°C Max
(T Tub)	HP-T41	10 bar	1 to 5 bar	52 - 65	5 - 20	41°C Max
Bath (44°C Fill)	LP-T44	10 bar	0.2 to 1 bar	52 - 65	5 - 20	44°C Max
(T Tub)	HP-T44	10 bar	1 to 5 bar	52 - 65	5 - 20	44°C Max
Bath (46°C Fill)	LP-T46	10 bar	0.2 to 1 bar	52 - 65	5 - 20	46°C Max
(T Tub)	HP-T46	10 bar	1 to 5 bar	52 - 65	5 - 20	46°C Max

Note: All relevant details should be recorded in the TMV maintenance log sheet.

1. Installing the TMV

1.1 Check that the TMV is approved for the intended application in compliance with the National Health Service Model Engineering Specification D08 (Healthcare premises)

1.2 Install the TMV as close as possible to the outlet to comply with SHTM 2027 and SHTM 2040. The dead leg from the TMV to the outlet should not exceed 2 metres and the complete length of the spur from the circulation circuit should not exceed 5m.

1.3 If the hot and cold water supplies are of unequal pressures, then the lower of the two pressures should not be less than 0.2 bar maintained pressure.

1.4 For thermal shut off in the event of cold water failure, the hot water supply pressure should not be more than 5 bar.

1.5 Isolating valves must be fitted to the hot and cold water supply pipes. The isolating valve will also be used for in-service testing.

1.6 The TMV should be able to operate correctly in any attitude of fixing.

2. Flushing of Pipework to Water (Scotland) Act 1980 and BS 6700

The most common cause for complaint regarding the performance of any TMV is often traced to dirt or debris in the TMV or non-return valves. Before a TMV is commissioned, the hot and cold water pipework should be thoroughly flushed using a FLUSHING KIT or other suitable procedures. The flushing kit comprises a screwed adapter to fit the strainer body and a plastic pipe to enable the water to be flushed to drain.

DO NOT flush the pipework by removing the strainer baskets and opening the taps.

DO NOT open the hot water tap before flushing the hot and cold water pipework.

The flushing procedure is as follows:

2.1 During this procedure, keep the hot and cold water outlet taps closed.

2.2 Close the hot and cold water ISOLATING VALVES.

2.3 If a strainer is fitted, remove the STRAINER BASKET from the strainer at the hot inlet. Flushing kits normally fit into the strainer body.

2.4 Place the outlet of the flushing pipe where it can drain freely. If draining into a wash basin or bath, make sure that the drain plug is NOT in place and that water passing through the flushing pipe is free to drain, maintaining an air gap.

2.5 Open the hot water ISOLATING VALVE and allow any air in the pipework to escape until water begins to flow to drain. Allow water to flow to drain until it is clean and free from any dirt or debris.

2.6 Close the hot water ISOLATING VALVE.

2.7 Remove the flushing kit and replace the strainer basket.

2.8 Repeat 2.3 to 2.7 at the cold water inlet.

2.9 Re-open both ISOLATING VALVES.

The flushing procedure has now been completed.

3. Commissioning a TMV

3.1 Open the hot water tap and allow water to run through the TMV. Check that the hot and cold water supplies are at or within their designated temperatures and pressures or within the appropriate range.

3.2 Measure and record the temperature at the hot water tap. This is the temperature of the mixed water. If necessary, make minor adjustments to achieve the required by temperature setting as described in Section 4 below.

3.3 Carry out a cold water failure test. Close the cold water isolating valve and simultaneously measure the mixed water temperature. The flow of mixed water should immediately stop. The temperature of any water coming from the tap should not be more than 2°C above the mixed water set temperature measured in 3.3 above.

Note: It is important that the cold water isolation is 100% as any cold water passing may cause water to be discharged from the mixed water outlet which should be at the correct temperature as measured in 3.3 above. Drips may be seen at the outlet due to the hot water cooling in the TMV.

3.5 If the TMV performs satisfactorily, close the hot water tap and open the cold water isolating valve.

3.6 If the water coming from the tap is at a temperature of more than 2°C above the mixed water temperature setting, the TMV is not cutting off the hot water supply properly. The most likely cause for this to happen is dirt inside the TMV. It should be dismantled and thoroughly cleaned and the pipework flushed again. See Maintenance Procedures. (Appendix Section 6)

3.7 If this is a new TMV and the flushing procedures have been followed correctly and dirt is not suspected, the valve should be removed and returned to the Manufacturer for replacement.

3.8 The TMV may be supplied with integral single non-return valves located in each of the inlet assembles, to check that the non-return valves are working properly, proceed as follows.

- Start with both hot and cold taps closed and both hot and cold isolating valves open. Close the cold supply isolating valve;
- Remove the strainer cover at the cold inlet to the TMV. After some initial draining of water, there should be no flow whatsoever. This indicates that the non-return valve at the cold inlet is giving a tight shut off from the hot water supply;
- Replace the strainer cover at the cold inlet and open the cold supply isolating valve. Close the hot supply isolating valve;
- Remove the strainer cover at the hot inlet. After initial drain of water, there should be no flow of water. This indicates that the non-return valve at the hot inlet is giving a tight shut off from the cold water supply;
- Replace strainer cover and open the hot water supply isolating valve.

4. Temperature adjustment

4.1 The TMV is often set at the factory to control the mixed water temperature at approximately 42^{o}C.

The range of temperature adjustment is normally 35 - 46^{o}C.

NOTE: To alter the temperature setting, follow the TMV manufacturer's procedure.

4.2 Check that hot and cold water supplies are at, or within, their designed temperature and pressure or within the appropriate range.

4.3 Open the mixed water outlet and allow water to flow until the mixed water temperature has stabilised. Make sure that the dead leg from the hot water supply to the TMV and from the TMV to the outlet has fully cleared.

4.4 Temperature adjustment: Adjustments of not more than half a turn at a time should be made. The temperature at the outlet should be measured and allowed to stabilise before any further adjustments are made.

4.5 After making an adjustment, close the hot water supply isolating valve for ten seconds then re-open it and measure the mixed water temperature again. Should a further adjustment be required, repeat the procedure.

4.6 Replace TMV covers and check that the isolating valves are fully opened.

4.7 The TMV is now commissioned.

5. In-Service testing

5.1 Maintenance of all TMVs is essential for health and safety. All maintenance action should be documented and records kept for a reasonable period of time (e.g. 6 years).

5.2 Periodic planned testing should be carried out to check whether any deterioration has occurred in the performance of the TMV. This will provide useful information to assist decision making relating to the period between maintenance visits.

Record the following tests:

- Hot water supply temperature;
- Cold water supply temperature;
- Mixed water outlet temperature.

5.4 Any adjustments to the outlet temperature should be recorded. Follow the guidance given in Section 4 Temperature Adjustment.

Note: If the temperature of the TMV cannot be set to the required temperature then appropriate action must be taken. Action may include removal of the service until a repair or replacement has been undertaken.

5.5 A cold water failure test should be carried out as described in Section 3.4 of this Appendix.

5.6 The frequency of in-service testing depends upon the condition of the water passing through the TMV. In-service testing must be carried out more frequently in hard water areas than in soft water areas. As a general guide, in-service testing should be carried out at least every six months and, where the water is hard, the interval may be less than six months. Experience of local conditions and the in-service testing record will dictate the frequency of in-service testing requirements.

NOTE: A TMV in need of maintenance may be undetectable in normal use and only become apparent when a disruption occurs in the hot or cold water supply pressures or temperatures.

6. Maintenance

6.1 Maintenance of all TMVs is essential. Should a TMV not operate properly, there is a risk of the user being scalded.

6.2 The frequency of maintenance depends upon the condition of the water passing through the TMV. 'O' ring seals should be replaced as advised by the manufacturer, or local experience. The thermostat element and valve assembly should be replaced as advised by the manufacturer, or local experience. All parts showing signs of physical damage should be replaced.

Note: Only use manufacturer's approved materials and spare parts

6.3 Close hot and cold water inlet isolating valves and open the outlet to allow pipework to drain.

6.4 Cleaning Strainers – clean the baskets and de-scale them if necessary.

6.5 The Valve Assembly is a precision part and must be handled with care. Remove the valve assembly as instructed by the manufacturer.

6.6 Thoroughly clean all components in accordance with the manufacturers instructions.

6.7 Flush out the valve body by replacing the Valve Cover and open the isolating valves allowing water at full bore to pass through the body to the outlet. If dirt is seen during flushing then carry out Flushing Procedure described in Section 2 of this Appendix.

6.8 Re-assemble the TMV in accordance with the manufacturer's instructions.

Major maintenance

NOTE: Remove the TMV from the pipework to undertake major maintenance.

6.9 DO NOT grip the valve body in a vice. This could distort the body and jam the internal parts.

6.10 Remove the valve cover and internal parts and follow manufacturer's instructions and recommendations.

6.11 If the valve body requires descaling remove all O-ring seals and use a proprietary fluid for this purpose. Do not put the thermostat element, valve assembly or baffle tube in the descaling fluid.

6.12 Inspect the condition of the hot valve seat and cold valve seat. Some TMV manufacturers can supply the tools necessary to clean and lap the valve seats. Where necessary follow the manufacturer's instructions.

6.13 Reassemble the TMV and carry out tests detailed Section 3 of this Appendix.

Non-Return valves

6.14 Non return valves are sometimes located within the strainer body. They are designed for a long, and normally maintenance-free life. Testing of the non-return valves should be undertaken as described in Section 3.8 of this Appendix.

7. Flow regulator

7.1 To avoid any unnecessary wastage of hot water, the optional flow regulator, sometimes supplied with the TMV, can be fitted at the mixed water outlet.

DO NOT fit flow regulators at the hot or cold water inlets to a TMV

DO NOT throttle down the hot and cold water supplies with the isolating valves. Isolating valves should normally be fully open.

8. Fault finding chart

SYMPTOMS	POSSIBLE CAUSE	ACTION
Mixed water temperature too high.	Temperature setting too high.	Re-adjust temperature setting.
	Temperature setting has been set when hot water temperature is too low.	
	Hot water has migrated into cold water supply.	Check NRV at cold inlet. If the NRV leaks, replace the strainer body and NRV sub assembly.
	Thermostat element has failed. This can be checked by carrying out a hot or cold water failure test.	Replace element.
Mixed water temperature too low.	Temperature setting too low.	Re-adjust temperature setting.
	Hot water supply temperature has fallen.	Check hot water supply system.
	Cold water has migrated into hot supply.	Check NRV at hot inlet. If the NRV leaks replace the NRV assembly.
Mixed water flow rate too slow.	Partly blocked strainers.	Clean strainers.
	High pressure drop in supply pipework.	Check all valves are full open. Check pressurisation unit. Check mains supply.
	Extra demand added to system.	Check pipe sizing.
Mixed water temp. does not respond to adjusting screw.	Slide-valve is seized.	Valve requires de-scaling.
	Thermostat element has failed (This can be checked by carrying out a hot or cold water failure test).	Replace elements.
Water at outlet runs full hot or full cold.	Hot and cold inlets reversed.	Hot inlet is marked with Red dot, Cold inlet is marked with Blue dot.
Valve continues to pass cold water when hot water supply is isolated.	Valve requires servicing.	Service valve according to manufacturer's instructions.
Valve continues to pass water when cold supply is isolated.	Valve requires servicing.	Service valve according to Manufacturers instructions.
	Cold water isolating valve not 100% closed.	Service cold water isolating valve.
	Hot water supply not at the required temperature.	Check hot water supply temperature.

Appendix 2: Bar coding and electronic monitoring

Following Health and Safety Executive recommendations and in conjunction with a number of NHS Trusts, a Company has developed software to handle the maintenance planning, and monitoring of thermostatic mixing valves. This software has been developed to integrate with their Management Information System. However they have now made this software available as a stand alone package.

The software holds a register of Thermostatic Mixing Valves (TMVs), with associated information such as location, manufacturer, supplier, model and serial number. From this database the software allows the production of a bar code label for the TMV. Using a hand held data capture unit to scan the label, provides a method of tracking the physical visits to inspect and maintain the TMV.

The software holds the dates when valves are due for testing and Planned Preventative Maintenance (PPM), and using this information the relevant data is downloaded to a handheld unit data capture unit. This unit is used by the craftsmen to scan the bar code label when inspecting and maintaining the TMV.

The person operating the handheld unit need not be a Maintenance Technician for inspections and temperature checks as the handheld unit is programmed to recognise, from the structure of the bar code, the type of thermostatic mixing valve and the correct temperature settings of the TMV. Therefore a trained person can undertake the testing of the TMV and the Maintenance Technician's time can be spent on PPM and repairs. The output temperature's of the TMV are recorded in the handheld unit and incorrect temperatures entries are followed by instructions to record the failure on the help desk system and enter a reference number for the Maintenance Technician to effect the repair of the TMV. Following completion of the work the bar code is scanned to indicate the work is complete. Where a repair is required the valve is isolated and an "Out of Use" notice is posted at the outlet.

Once the TMVs have been tested the data is uploaded back to the main system, allowing reports to be produced.

These reports give a full history of each valve, showing when the work and tests were done, who carried out the work, any notes entered into the hand held unit, and the time taken to carry out the test allowing calculation of the associated costs.

The package is designed to be installed on either a stand alone PC, or a network system.

Further information can be obtained from Mr A Lough, Depute Estates Manager. Lothian University Hospitals NHS Trust, who have implemented this system.

From: McFadden, Jim
To: Powrie, Ian
Date: 17 July 2014 16:56:59
Attachments: Legionella Written Scheme Jan"14.doc

NHS Greater Glasgow & Clyde

Written Scheme and Operational Procedure

For

MANAGING WATER SAFETY INCLUDING THE CONTROL OF LEGIONELLA, HYGIENE, 'SAFE' HOT WATER, COLD WATER & DRINKING WATER SYSTEMS

Unique ID: NHSGG&C

Category / Level / Type: Procedure

Status Final:

Date of Authorisation:

Date Added to Intranet:

Key Words:

Author (s): Facilities Policy Review Group

Version:

Authorised by:

Review Date: December 2014

Comments:

CONTENTS

1. HSE Brief Guide

Legionnaires' disease

A brief guide for dutyholders

What is legionnaires' disease?

Legionellosis is the collective name given to the pneumonia-like illness caused by legionella bacteria. This includes the most serious legionnaires' disease, as well as the similar but less serious conditions of Pontiac fever and Lochgoilhead fever. Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection. However, some people are at higher risk, including:

- people over 45 years of age;
- smokers and heavy drinkers;
- people suffering from chronic respiratory or kidney disease; and
- anyone with an impaired immune system.

Where are legionella bacteria found?

The bacterium *Legionella pneumophila* and related bacteria are common in natural water sources such as rivers, lakes and reservoirs, but usually in low numbers. Since legionella bacteria are widespread in the environment, they may also contaminate and grow in purpose-built water systems such as cooling towers, evaporative condensers, hot and cold water systems and whirlpool spas.

Are there legionella risks in my workplace?

Any water system that has the right environmental conditions could potentially be a source for legionella bacteria growth. There is a reasonably foreseeable legionella risk in your water system if:

- water is stored or re-circulated as part of your system;
- the water temperature in all or some part of the system is between 20–45 °C;
- there are sources of nutrients such as rust, sludge, scale and organic matters;
- the conditions are likely to encourage bacteria to multiply;
- it is possible for water droplets to be produced and, if so, if they can be dispersed over a wide area, eg showers and aerosols from cooling towers; and
- it is likely that any of your employees, residents, visitors etc are more susceptible to infection due to age, illness, a weakened immune system etc and whether they could be exposed to any contaminated water droplets.
- The most common places where legionella can be found include purpose-built water systems, cooling towers, evaporative condensers, hot and cold water systems and spa pools. There are also a number of other systems that may pose a risk to exposure to legionella, eg humidifiers, air washers, emergency showers, indoor ornamental fountains etc.

What are my duties?

Under general health and safety law, as an employer or person in control of a premises (eg a landlord), **you** have health and safety duties and need to take suitable precautions to prevent or control the risk of exposure to legionella. Details of the specific law that applies can be found in part 1 of *Legionnaires' disease: The control of legionella bacteria in water systems*.

Carrying out a risk assessment is your responsibility and will help you to establish any potential risks and implement measures to either eliminate or control risks. You may be competent to carry out the assessment yourself but, if not, you should ask someone with the necessary skills to conduct a risk

assessment. This can be done by someone from within your own organisation or from someone outside, eg an external consultant.

How do I identify and assess sources of risk?

To identify the risks in your water system you, or a competent person who understands your water systems and any associated equipment, should establish any possible exposure to legionella risks, as listed above, as part of a risk assessment.

Your risk assessment should include:

- management responsibilities, including the name of the competent person and a description of your system;
- any potential risk sources;
- any controls currently in place to control risks;
- monitoring, inspection and maintenance procedures;
- records of the monitoring results, inspection and checks carried out; and
- a review date.

If you decide that the risks are insignificant and are being properly managed to comply with the law, your assessment is complete. You will not need to take any further action, but it is important to review your assessment periodically in case anything changes in your system.

How do I manage the risk?

As an employer or person in control of premises, you must appoint someone competent to help you comply with your health and safety duties, eg take responsibility for managing the risks. A competent person is someone with the necessary skills, knowledge and experience to manage health and safety, including the control measures. You could appoint one, or a combination of:

- yourself;
- one or more workers; and/or
- someone from outside your business.

If there are several people responsible for managing your risks, eg because of shift-work patterns, you need to make sure that everyone knows what they are responsible for and how they fit into the overall risk management programme.
If you decide to employ contractors to carry out water treatment or other work, it is still the responsibility of the competent person to ensure that the treatment is carried out to the required standards. Remember, before you employ a contractor, you should be satisfied that they can do the work you want to the standard that you require. There are a number of external schemes to help you with this, for example *The control of legionellosis: A recommended code of conduct for service providers*.[2]

How do I prevent or control the risk?

You should consider whether you can prevent the risk of legionella in the first place by considering the type of water system you need, eg consider whether it is possible to replace a wet cooling tower with a dry air-cooled system. The key point is to design, maintain and operate your water services under conditions that prevent or adequately control the growth of legionella bacteria.

You should, as appropriate:

- ensure that the release of water spray is properly controlled;
- avoid water temperatures and conditions that favour the growth of legionella and other micro-organisms;

- ensure water cannot stagnate anywhere in the system by keeping pipe lengths as short as possible or by removing redundant pipework;
- avoid materials that encourage the growth of legionella. The *Water Fittings and Materials Directory*[3] references fittings, materials, and appliances approved for use on the UK Water Supply System by the Water Regulations Advisory Scheme);
- keep the system and the water in it clean; and
- treat water to either kill legionella (and other microorganisms) or limit their ability to grow.
- If you identify a risk that you are unable to prevent, you must introduce appropriate controls. You should introduce a course of action that will help you to control any risks from legionella by identifying:

    - your system, eg developing a written scheme;
    - who is responsible for carrying out the assessment and managing its implementation;
    - the safe and correct operation of your system;
    - what control methods and other precautions you will be using; and
    - what checks will be carried out to ensure risks are being managed and how often.

What records do I need to keep?

If you have five or more employees, you have to record any significant findings, including any groups of employees identified by it as being particularly at risk and the steps taken to prevent or control risks.

If you have less than five employees, you do not need to write anything down, although it is useful to keep a written record of what you have done.

Records should include details about:

- the person or people responsible for conducting the risk assessment, managing, and implementing the written scheme;
- any significant findings of the risk assessment;
- the written control scheme and its implementation; and
- the results of any inspection, test or check carried out, and the dates.
- This should include details about the state of operation of the system, ie in use/not in use.

These records should be retained throughout the period for which they remain current and for at least two years after that period. Records kept in accordance with the last bullet point above should be retained for at least five years.

Do I have any other duties?

Under the Notification of Cooling Towers and Evaporative Condensers Regulations 1992,[4] you must notify your local authority, in writing, if you have a cooling tower or evaporative condenser on site and include details about where it is located. You must also tell them if/when such devices are no longer in use. Notification forms are available from your local environmental health department.

If you have a case of legionellosis in an employee who has worked on cooling towers or hot water systems that are likely to be contaminated with legionella, you must report this under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR).[5]

References

1 *Legionnaires' disease. The control of legionella bacteria in water systems. Approved Code of Practice and guidance* L8 (Third edition) HSE Books 2001 ISBN 978 0 7176 1772 2 www.hse.gov.uk/pubns/books/L8.htm

2 *The control of legionellosis: A recommended code of conduct for service providers* The British Association of Chemical Specialities and the Water Management Society 2005 www.legionellacontrol.com/Legionella-Control-Association-Code-of-Conduct-%20Issue-5-07.pdf

3 *Water Fittings and Materials Directory* www.materialstesting.co.uk/materials_directory.htm

4 *The Notification of Cooling Towers and Evaporative Condensers Regulations 1992* SI 1992/2225 TSO 1992 www.legislation.gov.uk

5 *Reporting accidents and incidents at work: A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)* Leaflet INDG453 HSE Books 2012 (priced pack ISBN 978 0 7176 6460 3) www.hse.gov.uk/pubns/INDG453.htm

The requirements contained within the following sections of this document are drawn from guidance given either in SHTM 04-01 Part B or from the HSE guidance in L8

In addition to the guidance given for Operational Requirements it is also essential for Estates to keep accurate records of

1. Drawings relating to water distribution systems
2. Risk Assessments relating to the management of these systems
3. Records of samples taken and the associated results
4. Records of the test sheets and tables found in the appendices of this document

2 Roles and Responsibilities

The Roles are as defined in SHTM 04-01 (Part B Section 6). See appendix 1 for an organisational chart with named individuals for NHSGG&C (as at December 2013)

Management

2.1 Management is defined as the owner, occupier, employer, general manager, chief executive or other person who is ultimately accountable, and on whom the duty falls, for the safe operation of healthcare premises.

2.2 A person intending to fulfil any of the staff functions specified below should be able to prove that they possess sufficient skills, knowledge and experience to be able to perform safely the designated tasks.

Infection Control Officer (Responsible Person (Pseudomonas))

2.3 The Infection Control Manager, the Infection Prevention and Control Doctor (also known as the Infection Control Doctor) and the Consultant Microbiologist are nominated by management to advise on infection control policy and to have responsibility for the maintenance of water quality.

2.4 The policy should be acceptable to the infection control team and they should agree any amendment to that policy.

The Infection Control Manager is also the Responsible Person (Pseudomonas) as such will operate to the NHSGG&C Standing Operating Procedure (SOP) for Minimising the Risk of Pseudomonas aeruginosa Infection from Water, a copy of which is attached at Appendix 12.

Responsible Person (Dutyholder)

2.5 A Responsible Person (water), possessing adequate professional knowledge and with appropriate training, should be appointed in writing by management to devise and manage the necessary procedures to ensure that the quality of water in healthcare premises is maintained. The Responsible Person should be a manager or director, or

have similar status and sufficient authority to ensure that all operational procedures are carried out in an effective and timely manner.

2.6 The Responsible Person will be required to liaise closely with other professionals in various disciplines. In addition, the Responsible Person should possess a thorough knowledge of the control of *Legionella* and would ideally be a chartered engineer, microbiologist or other professionally qualified person.

2.7 This role, in association with the infection control officer and maintenance staff, involves:

- advising on the potential areas of risk and identifying where systems do not adhere to this guidance;
- liaising with the water authority (See Note 1 in Part A of this SHTM) and environmental health departments and advising on the continuing procedures necessary to ensure acceptable water quality;
- monitoring the implementation and efficacy of those procedures;
- approving and identifying any changes to those procedures;
- ensuring equipment that is to be permanently connected to the water supply is properly installed;
- ensuring adequate operating and maintenance instructions exist and adequate records are kept.

2.8 Implementation of an effective maintenance policy must incorporate the preparation of fully detailed operating and maintenance documentation and the introduction of a logbook system. The Responsible Person should appoint a deputy to whom delegated responsibilities may be given. The deputy should act for the Responsible Person on all occasions when the nominated person is unavailable.

2.9 The Responsible Person should be fully conversant with the design principles and requirements of water systems and should be fully briefed in respect of the cause and effect of water-borne organisms, for example *Legionella pneumophila*. The appointment of an engineer is appropriate in that the role can extend to the operation and maintenance of associated plant. It is recognised that the Responsible Person cannot be an expert on all matters and must be supported by specialists in specific subjects such as water treatment and microbiology, but he/she must undertake responsibility for calling upon and coordinating the activities of such specialists.

2.10 The Responsible Person should be aware that manufacturers, importers, suppliers, installers and service providers have specific responsibilities that are set out in the Health and Safety Commission’s Approved Code of Practice L8.

Contractor

2.11 A Contractor is the person or organisation designated by management to be responsible for the supply, installation, validation and verification of hot and cold water services, and for the conduct of the installation checks and tests. In relation to the control

of *Legionella*, it is essential to ensure that potential contractors have suitable qualifications (for example companies/individuals who are members of the *Legionella* Control Association).

Authorising Engineer (AE)

2.12 An Authorising Engineer acts as an independent professional advisor to the healthcare organisation, appointed by the organisation with a brief to provide services in accordance with SHTM guidance.

2.13 The Authorising Engineer acts as an assessor, making recommendations for the appointment of Authorised Persons, monitoring the performance of the service and providing an annual audit to the organisation's Designated Person.

Duties include:-

- Nominating through the Designated Person (Water) the appropriate (Estates) Manager(s) to act as "Responsible Person (Water)" and "Deputy Responsible Person (Water)" as defined in appointment letters, to adopt day-to-day responsibility for controlling and managing any identified risk from *Legionella* and *Pseudomonas* bacteria under the policy and lead the Water Safety Group.

- Nominate through the Designated Person (Water) in writing appropriate deputies and "Authorised Persons (Water)" who have authority, competence, knowledge and control of the water systems and installations identified in specific Written Schemes to ensure that all operational procedures and SHTM 04-01 requirements are carried out in a timely and effective manner to documented timescales. The Scheme can involve "Competent Persons", "Maintenance Technicians", "Tradespersons", "Installers", "Contractors" and "Contract Supervising Officers" co-ordinated with Duty Holders in accordance with SHTM and HSE guidance under the policy

Responsible Person (Water)

2.14 The Sector Estates Manager (or appointed deputy) is the "Responsible Person (Water)" managing day–to–day risks and will be the Estates lead in the event of an operational incident. In the event of *Pseudomonas* infection, Estates responsibility is limited as this will be lead by the "Responsible Person (Pseudomonas)" and the Responsible Person (Water) will require to draw upon experience and specialist advice from a consultant medical microbiologist, who shall also be a member of the Water Safety Group, to advise and lead on these issues;

Authorised Person (AP)

2.15 The Authorised Person has the key operational responsibility for the service, qualified and sufficiently experienced and skilled for the purpose. He/she will be nominated by the Authorising Engineer and be able to demonstrate:

- his/her application through familiarization with the system and attendance at an appropriate professional course;
- a level of experience;
- evidence of knowledge and skills.

2.16 An important element of the Authorised Person's role is the maintenance of records, quality of service and maintenance of system safety (integrity).

2.17 The Authorised Person will also be responsible for establishing and maintaining the roles and validation of Competent Person who may be employees of the organisation or appointed contractors.

2.18 Larger sites may require more than one Authorised Person for a particular service. Administration duties, such as record keeping, should be assigned to specific Authorised Persons and recorded in the operational policies.

Competent Person (CP)

2.19 The Competent Person provides skilled installation and/or maintenance of the specialist service. He/she will be appointed, or authorised to work (if a contractor) by the Authorised Person. He/she will demonstrate a sound trade background and specific skill in the specialist service, working under the direction of the Authorised Person in accordance with operating procedures, policies and standards of the service.

Designated Person (DP)

2.20 The Designated Person provides the essential senior management link between the organisation and its professional support, which also provides independence of the audit-reporting process. The Designated Person will also provide an informed position at Board level. The DP will be the Chair of the Water safety Group.

3. Description of Systems, Operational considerations and requirements (as per SHTM 04-01 (Part B Section 7)

Source of supply

3.1 See Section 2 in SHTM04-01 Part A for comprehensive guidance and information on sources of water supply.

3.2 If supplies are taken from local boreholes or wells etc, the water should be tested to comply with the requirements of the Water Supply (Water Quality) (Scotland) Regulations 2001 and 2010. The results of all analyses should be kept and recorded.

Water supply hygiene

3.3 Normally a supply from a water authority (See Note 1 in SHTM04-01 Part A) should not require additional disinfection, but all piping, fittings and associated services used for the conveyance of water for domestic purposes must be disinfected before being brought into use. Such piping, fittings and storage cisterns must also be disinfected on completion of works which have entailed 'opening up' the system.

3.4 Private supplies taken from boreholes or wells etc will require regular testing, (see paragraph 3.1, above), and will generally require to be disinfected before being used for domestic purposes. Disinfection is effected by chemical or physical agents – the method generally used is chlorination.

3.5 Despite disinfection of systems, some outbreaks of disease related to treated water supplies still occur. To reduce the risk of such outbreaks, the design should eliminate:

- direct contact with the internal parts of water pipes and structures by people, animals or birds;

- backflow (back-siphonage) of contaminated water into systems conveying potable water (mains and storage structures).

3.6 Measures to protect against back-siphonage are set out in the WRAS 'Water Regulations Guide'. The principle is that the design of piped water systems should be carried out in a manner that minimises the likelihood of contaminated material, or water, gaining access to those parts of any water service conveying potable water. All water from non-potable sources (rain, surface run-off water, private supplies, drainage of foul water etc) must be regarded as a potential source of pathogenic material. (Section 14 in Part A also refers).

Chlorination

3.7 Disinfection using chlorine should be carried out in accordance with BS6700: 1997 (see also Section 17 in SHTM04-01 Part A) and under the direct supervision of a nominated person.

3.8 Contaminated water that is run to waste into a natural watercourse, or a drain leading to it, should be treated in accordance with the requirements of the authority (SEPA) responsible for land drainage and pollution control. The authority responsible for pollution control should be informed. Dechlorination can be achieved using either sulphite or bisulphite or meta-bisulphite.

Thermal disinfection (of hot water service systems)

3.9 This process introduces a serious scalding risk, and it is essential that steps are in place to ensure that access is limited to authorised personnel only until such time that the system has returned to normal operating temperature. It is unlikely to be a practical alternative for a large system.

3.10 This process can be performed by raising the temperature of the entire contents of the calorifier, followed by circulating the water throughout the system for at least an hour. The process, however, is impractical for all but small systems. The calorifier temperature must be sufficiently high to ensure that the temperature in all parts of the circulating system, and at the calorifier return, does not fall below 60°C. After this period, each tap or outlet should be run sequentially, with the draw-off at the furthermost tap or outlet being for a period of five minutes. Then each tap should be flushed back to source for the same period of time.

3.11 In the case of non-recirculating systems that have trace heating, the whole system should similarly be raised to 60°C for at least an hour before draw-off commences. However, trace heating systems are not recommended for other than very small installations or where there are recurrent localised depressed temperatures forming part of circulation systems.

Water treatment

3.12 *Legionella*, like other opportunist pathogens including *Aeromonas hydrophila* and *Pseudomonas aeruginosa,* are common in the environment and therefore can seed untreated water systems during construction and subsequent use. Contamination of water systems by microorganisms can also be introduced during refurbishment, repair and alteration, or during routine inspection and sampling.

3.13 The need for water treatment and the method of application depend on the purposes for which the water is to be used and the quantity required for each purpose.

3.14 In a properly installed and commissioned hot water system, it should be possible to maintain a temperature of at least 55°C at the furthest draw-off point in the circulating system, and 50°C in the circulating system's return connection to the calorifier. In older premises, however, this may not be possible, and in the case of cold water systems it is not always possible or practicable to maintain temperature below 20°C because of utilisation and complexity. It may therefore be necessary to apply additional residual biocidal water treatment that has been shown to destroy and remove biofilm. Information on these techniques can be found in paragraphs 7.7 and 7.13 of SHTM04-01 Part B.

3.15 Where automatic equipment is used for disinfection, it should indicate any change in the amount or concentration of material injected into the water so that immediate action can be taken.

3.16 Continuous dosing with appropriate biocides that have proven efficacy should be considered during construction to prevent the accumulation of biofilm. A regular flushing programme for all outlets should also be implemented.

3.17 The continuous chlorination of hot and cold water service systems to control the growth of *Legionella* is not generally recommended. Treatment using chlorine dioxide or copper/silver ionisation can be used.

3.18 In defining their responsibilities, service providers should be asked to advise on test methods and anticipated concentrations of residual chemicals within the system. (See also Sections 3 and 15 in SHTM04-01 Part A for more guidance on water treatment regimes.)

Chlorine dioxide

3.19 Chlorine dioxide is an oxidising biocide that is capable of reacting with a wide range of organic substances. Its effectiveness in the control of organisms in water systems has been demonstrated in a study carried out by BSRIA (see BSRIA's (1998) TN 2/98: 'Chlorine dioxide water treatment − for hot and cold water services').

3.10 In the inactivation of microorganisms, the chlorine dioxide molecule acts as a free radical (oxidising biocide) that readily bonds with the amino acids (the basic building blocks of proteins, which form the living cells). This results in their destruction.

Chlorine dioxide as a control measure

3.21 The use of chlorine dioxide as a control measure will depend on the design of the systems in use and their operational history. (See also Appendix 4 in SHTM04-01 Part A.)

3.22 There are two aspects to be taken into consideration:

- in the cold water distribution system, chlorine dioxide will be injected into the system upstream of all parts of the distribution, storage and boosting equipment – that is, at the curtilage of the premises;

  Note: Backflow prevention is required if chlorine dioxide is injected into a pipe connected to the mains supply;

- in the case of hot water distribution systems with calorifiers/water heater operating conventionally (that is, at 60°C), there will be a tendency for chlorine dioxide to be lost by 'gassing off', especially if the retention time in a vented calorifier/water heater is long. In most cases, however, some level of total oxidant should be found in the hot water, although at concentrations far less than the 0.5 mg/litre injected. The calorifier/water heater should act as a barrier to dispersal of any pathogenic material by the hot water system (even if the cold water supply quality is not under control).

  Note: Chlorine dioxide and its breakdown products chlorite and chlorate can be deleterious to neonates and renal dialysis patients, and should be removed from the water supply to these units. For all practical purposes in water, ppm = mg/litre.

Maintenance of the control regime

3.23 This depends on four separate aspects, as follows:

- ensuring that the dosing equipment is operating satisfactorily;
- ensuring that the limit for total oxidant in the system is not exceeded;
- ensuring that all parts of cold and blended water systems are exposed to chlorine dioxide;
- ensuring that a management system is in place to maintain these procedures, including communication between heads of department, to ensure that problems with the system, or changes in use, are brought to the attention of the responsible staff (see Scottish Health Technical Memorandum 00: 'Policies and principles').

Ensuring that the dosing equipment is operating satisfactorily

3.24 Generally this is the responsibility of the supplier of the dosing equipment, who will seek to achieve the maximum available chlorine dioxide from the generation process. (Systems are not 100% efficient, and the free available chlorine dioxide may be less than the permitted limit of total oxidant of 0.5 mg/litre but should not be significantly less at the point of injection.) When chemical treatment is introduced as part of a programme of remedial action of a colonised system, as the system is brought under control, it should be possible to measure increasing concentrations of available (active) chlorine dioxide. With a newly installed dosing system, this may not be possible for several weeks. If chlorine dioxide cannot be identified, tests for total oxidant should be performed.

3.25 It will be the healthcare facility's responsibility to check that the equipment is operating, and this should include routine checking of available 'active' chlorine dioxide.

3.26 Tests for total oxidant are most easily accomplished by DPD1 tablets. The oxidising effect of chlorine can be removed by first adding glycine, and the remaining total oxidants (including chlorine dioxide, chlorite and chlorate) can then be measured using the DPD1 tablets, following suppliers' instructions.

Note : DPD is an abbreviation for diethyl-p-phenylene diamine. DPD1 tablets are used for detecting oxidants in water.

Ensuring that the limit for total oxidant in the system is not exceeded

3.27 Feedback control to maintain chlorine dioxide levels at the most distant draw-off positions cannot be used since this would result in the limit of 0.5 mg/litre being exceeded at draw-offs close to the point of injection.

3.28 The available chlorine dioxide and total oxidant, therefore, will be the result of the disinfection process, general state of the system and water usage levels. Performance of the dosing equipment is the responsibility of the supplier/service provider. (Water quality overall is ultimately the responsibility of the owners of the system.)

3.29 A representative number of outlets should be tested for total oxidant to ensure that the limits are not being exceeded. These should include proximal outlets and some distal outlets. (It should not normally be necessary to check the hot water service whose primary supply is potable.)

Ensuring that all parts of cold and blended water systems are exposed to chlorine dioxide

3.30 In addition to the above, it will be necessary to monitor the following:

- the quantity of chemicals in the reservoir;
- the rate of addition of chlorine dioxide to the water supply;
- on a monthly basis, the concentration of chlorine dioxide should be measured at the sentinel taps and should be at least 0.1 mg/litre;
- on an annual basis, the chlorine dioxide should be measured at a representative number of outlets and should be at least 0.1 mg/litre.

Purging the systems

3.31 Where chemical treatment is introduced, it is essential to ensure that all parts of the system are purged so that adequate concentrations are achieved.

As temperature monitoring is performed on sentinel and representative outlets on a rolling basis only, additional draw-off will be required at all points on a regular basis.

Filtration

3.32 Filtration of potable water to a particle size of 0.2 micron is not uncommon, typically using 'dead-end' filters or cross-flow membrane filters.

3.33 In all cases it is feasible for bacteria to colonise or ‘grow through’ the filter material even where backwashing is a feature.

3.34 It is essential for filter cartridge elements to be changed at appropriate intervals in accordance with the manufacturer’s recommendations, taking into account local conditions.

3.35 Filter membranes should also be chemically cleaned or replaced at the recommended periods, and care must be taken to ensure that the “vessel” or “housing” containing the filter assembly is also disinfected appropriately during filter or membrane maintenance. Further information relating to on-site filtration is contained in Part E of SHTM 04-01: Alternative materials and filtration. Section 5 in SHTM04-01 Part A also refers.

Water softening

3.36 Base-exchange softening removes permanent and temporary hardness from water. The technique uses an ion exchange process in which the calcium and magnesium ions in solution are removed and replaced by an equivalent number of sodium ions.

3.37 Daily or frequent backwashing and periodic cleaning and disinfection (six-monthly) must be undertaken in accordance with the manufacturer’s/ supplier’s instructions. Other proprietary cleaning agents are not recommended, particularly if the softened supply water serves apparatus such as dialysis machines.

3.38 Other water softening methods include physical water conditioning and magnetic water conditioning. The operation and maintenance of these systems should be in accordance with manufacturers’ instructions. The efficacy of these water-conditioning measures needs to be considered.

3.39 Further information on water softening can be found in BSRIA’s Applications Guide AG 2/93: ‘Water treatment for building services systems’. See also Table 1 in Section 4 in SHTM04-01 Part A, which classifies the levels of water hardness.

Metering

3.40 Where water meters are installed in below-ground meter chambers, the chambers should be kept clean of debris and water; this will enable quick and accurate reading of the meters.

3.41 Meters should be periodically checked to ensure that they are operating and providing accurate readings.

3.42 Meters, other than the water authority’s (See Note 1 in Part A of SHTM04-01) meter, should be removed at such intervals as recommended by the manufacturers for cleaning and renewal of worn parts and should be tested for accuracy prior to replacement.

3.43 Meters should be read on a regular basis (monthly) and consumption monitored. A bar graph will highlight unusually large consumption, which can then be investigated.

3.44 Consumption should be checked against the utility bill and any discrepancies investigated.

Water storage

3.45 For general information on water storage, see paragraphs 7.1–7.2 in SHTM04-01 Part A.

3.46 The Water Supply (Water Fittings) Regulations 1999 and relevant parts of BS6700:1997 specify minimum standards for cold water storage cisterns to ensure that the stored water is retained at a potable standard suitable for domestic use. It is necessary to minimise stagnation and stratification of the stored water. A nominal 12 hours' total on-site storage capacity is recommended. The quantity of the water stored should be carefully assessed in relation to the daily requirement so that a reasonable rate of turnover is achieved. The storage capacity should be reduced where it is known or established that it is excessive and where it is practicable to do so.

3.47 All cold water storage cisterns and cold feed cisterns must be examined at least annually, paying particular attention to the presence of foreign objects, biological material and excessive corrosion. On completion of the examinations, the cisterns should be cleaned, if required, and any remedial work carried out. Before the cisterns and system are put back into use, they should be disinfected in accordance with the procedure detailed in Section 17 of SHTM04-01 Part A.

3.48 Any chemicals used in the cleaning or maintenance of cisterns must be listed in the 'Water Fittings and Materials Directory'.

3.49 Cistern insulation should be checked to ensure that it is adequately positioned and in good condition.

3.50 Float-operated valves should be checked to ensure that they are securely fixed and set to achieve a correct water level in accordance with the Water Supply (Water Fittings) Regulations 1999.

3.51 Overflow/warning pipes should be checked to ensure that they do not rise in level and they are clear and correctly routed to give an obvious visual alarm of an overflow condition. A weatherproof label fixed adjacent to the warning pipe, identifying the tank and its location together with the person/ department to be contacted in the event of a discharge, would contribute to a quick and accurate defect report which could then be acted upon, so minimising water wastage.

3.52 A schematic drawing, illustrating piping and valve arrangements for break-tank operation during normal running and maintenance periods, is shown in Figure 2 of SHTM04-01 Part A.

Pressurisation/supply pumps

3.53 Where two or more pumps are installed for pressurising systems, automatic control should be provided to operate the pumps cyclically and sequentially to minimise any danger of stagnation.

3.54 The maintenance carried out on this type of equipment should be in accordance with the manufacturer's recommendations. Secondary recirculation pumps should be manually inspected at least monthly to ensure that they are operating effectively.

Cold water distribution system

3.55 The design and installation of the cold water distribution system should comply with The Scottish Water Byelaws 2004 and relevant parts of BS6700:1997 and BS EN 806-2: 2005. (See Section 8 of SHTM04-01 Part A for further information.)

3.56 The control of water temperature in the cold water service will essentially rely on good insulation and water turnover. Cold water services should be sized to provide sufficient flow and should be insulated and kept away from areas where they are prone to thermal gains. Stagnation must be avoided. Special attention should be given to the maintenance and monitoring of these systems.

Note: Automatic flushing of urinals should also be used to assist in water turnover.

3.57 Schematic drawings of the system with numbered and labelled valves will reduce confusion and save time in trying to identify appropriate isolating valves and other system components.

3.58 Checks and actions should be carried out to show that:

- the system components show no sign of leakage or corrosion;
- the system insulation is in good condition;
- the system filters have been changed and/or cleaned in accordance with manufacturer's recommendations.
- strainers have been regularly checked and cleaned;
- all isolating valves have periodically been worked through their full range of travel;
- every water outlet complies with the backflow protection requirements of the Scottish Water Byelaws 2004.

Drinking water

3.59 Current guidance does not draw a distinction between drinking and general cold water services; both are considered to be 'domestic'.

3.60 The installation of separate drinking water supplies used to be standard policy. However, in many cases where such systems have been installed, the quality of drinking water (particularly at sporadically used draw-offs, for example washrooms) has generally been inferior to that of the general cold water supply.

3.61 If separate drinking water supplies are provided, reference should be made to paragraphs 8.13 and 8.14 in SHTM04-01 Part A.

Hot water storage and distribution

3.62 Hot water services should be designed and installed in accordance with the Scottish Water Byelaws 2004 and relevant parts of BS6700:1997 and BS EN 806-2: 2005. The hot water system may be of either the vented or the unvented type. (See Section 9 of Part A for further information.)

3.63 To control possible colonisation by *Legionella*, it is essential to maintain the temperature within the hot water circulating system. To some extent, if properly maintained, the calorifier/water heater will provide a form of barrier to *Legionella* and other water-borne organisms. The minimum flow temperature of water leaving the calorifier/water heater should be 60°C at all times, and 55°C at the supply to the furthermost draw-off point in the circulating system.

Note: A minimum of 55°C may be required for the operation of suitable mixing devices to provide 'safe' hot water at the upper limit of the recommended range. In large, non-recirculating systems, the minimum of 55°C should be maintained by electric trace heating. Such systems are, however, not recommended.

3.64 The minimum water temperature at the connection of the return to the calorifier/water heater should be 50°C. To achieve the required circulating temperatures, it will be necessary to maintain the balance of flows to individual pipe branches and draw-off points.

3.65 Calorifiers should be subjected to regular procedures that include the following:

- cleaning and maintenance;
- quarterly draining to minimise the accumulation of sludge. This may be extended to annual draining if, during inspection, it is found that there is little accumulation of debris;
- whenever dismantled, for statutory inspection, or every year in the case of indirect calorifiers, calorifiers should be thoroughly cleaned to remove sludge, loose debris and scale;
- whenever a calorifier is taken out of service, it should be refilled, drained, refilled again and the entire contents brought up to, and held at, the nominal operating temperature of 60°C for at least an hour;
- a calorifier shunt pump will reduce the heat-up time. The calorifier should remain isolated until the procedure is completed. When bringing calorifiers back on line, it is important that service valves are opened slowly to avoid any disturbance of sediment debris. Calorifiers that are to be taken out of service for more than a few days should be drained and should not be refilled until ready for return to service;
- the drain valve should be left open while the calorifier is out of use;
- users are reminded that if a calorifier is colonised by *Legionella* and is then drained and opened for maintenance purposes, there can be a risk of infection to maintenance personnel and personal protective equipment will be necessary;

- where it is known, or established, that gross over-capacity exists in a calorifier, and where it is practicable to do so, it should be removed;

- approximate calorifier emptying times are shown in Table 3 of SHTM04-01: Part A.

3.66 Hot water circulating pumps should be of adequate performance to ensure a minimum available temperature at draw-off points of 55°C and an absolute minimum of 50°C at the return connection to the calorifier.

3.67 Ball-type valves should be specified to avoid clogging. The drain from the gully should be of sufficient size to take the flow from the calorifier drain. 3.67 It is not permissible to shut down the pumped circulation. To do so will lead to the loss of the required system temperatures.

Instantaneous water heaters for single or multi-point outlets

3.68 These devices usually serve one draw-off only and are either electrically or gas-heated. The general principles and limitations of instantaneous water heaters are given in BS6700:1997. In essence:

- the flow rate is limited and is dependent upon the heater's hot water power rating;

- where restricted rates of delivery are acceptable, the heater can deliver continuous hot water without requiring time to reheat;

- they are susceptible to scale formation in hard water areas, where they will require frequent maintenance;

- this form of hot water heating should be generally considered for smaller premises or where it is not economically viable to run hot water distribution to a remote outlet.

3.69 Where electrical trace heating is used, it should be checked routinely (at least monthly) to ensure that it maintains the water temperature above 55°C. Care should be taken to ensure there are no cool spots. Consideration should be given to monitoring the temperatures by means of a Building & Energy Management System (BEMS) (sensors should be located at the most distal points).

Safe hot water delivery devices

3.70 Thermostatic mixing valves for baths, showers and taps should comply with the standards of the Health Technical Specification D08 – 'Thermostatic mixing valves (healthcare premises)'.

The types of mixing device are specified in Table 4 of SHTM04-01 Part A.

3.71 It is essential to check the temperature settings and operation of all water mixing devices regularly (six monthly, provided that there is no 'drift' in excess of 1°C). The method of testing should be in accordance with Health Technical Specification D08. Other maintenance should be strictly in accordance with the manufacturer's instructions. The local water quality will influence the maintenance frequency for any installation. A

relatively small piece of debris may restrict the operation of the temperature control and fail-safe mechanisms.

3.72 The recommendations regarding safe water temperature apply to all ward accommodation, residents' rooms and those areas to which patients, residents and visitors have free access (including public areas). Until the recommended precautions are put into effect, staff should be made aware of the potential danger and take the necessary steps to protect patients, residents and visitors. Areas that do not meet these recommendations should be identified, and plans to comply as soon as reasonably practicable should be devised. These recommendations apply equally to staff accommodation.

Materials of construction

3.73 Systems should comply with the requirements of the Water Supply (Water Fittings) Regulations 1999. Materials used in contact with water that is for drinking etc should comply with BS6920-1: 2000 and be listed in the latest edition of the 'Water Fittings and Materials Directory' published by WRAS.

Temperature control regime

3.74 Temperature control regime is the preferred strategy to maintain systems free from *Legionella* and other waterborne organisms. This will require monitoring on a regular basis. The test frequencies are listed in Table 1. (See also BSRIA's Application Guide AG 4/94: 'Guide to legionellosis – temperature measurements for hot and cold water services'.)

3.75 Whereas many of the checks will, of necessity, require the use of separate thermometric equipment, some of the temperature checks can be carried out by continuous monitoring by a BEMS. Where a BEMS is used, it will be essential to ensure that regular calibration and physical tests are performed in accordance with the manufacturer's instructions.

3.76 More extensive use of BEMS should be considered: hot water service flow and return temperatures should be monitored at the entry to individual wards, and cold water service(s) at the most distal point(s). In other departments where bathing/ showering is less likely, monitoring should be provided on branches serving up to 50 outlets. The BEMS could also be used to monitor the temperature in non-recirculating systems that have trace heating. The alarm level should be 50°C.

Showers

3.77 Hyper-chlorination of showerheads and angle valve strainers has only a short-lived effect on *Legionella*. Manual cleaning to remove scale and other deposits should be carried out at least quarterly, and more frequently if required. Automatic drain valves are ineffective in maintaining a reduction in the number of *Legionella* in shower water, and they should not be installed (see the Health and Safety Commission's Approved Code of Practice L8). Regular flushing of showers reduces *Legionella*, but *Legionella* can significantly increase in number if regular flushing should cease. The most effective management of showers will be achieved by the removal of unnecessary ones and the regular use of others. Where showers are removed, it is important to cut back all the

associated pipework to avoid creating dead-legs. (Paragraph 7.49 in SHTM04-01 Part A also refers)

3.78 Where it is difficult to carry out flushing to the recommended frequency, stagnant and potentially contaminated water from within the shower and associated dead-leg should be purged to drain immediately before the appliance is used. This procedure must be carried out with minimum production of aerosols. It is important to note the distinction between self-purging and self-draining showers. Self-purging showers can be an effective *Legionella* control procedure, while self-draining showers can support the proliferation of *Legionella*.

Point-of-use filtration

3.79 Point-of-use filters must be changed in accordance with the manufacturers' recommendations, typically at least once a month. When changing filters, it is recommended that sampling of water quality takes place at outlets identified as sentinel points, before refitting a replacement filter. Except where taking samples as above, once point-of-use filtration has been introduced, taps or showers must not be used without a filter in place.

3.80 Where point-of-use filters are no longer required, the outlet and associated pipework must be disinfected to remove any accumulated biofilm before the system is returned to service (see also paragraph 5.16 in Part A).

Summary checklist

3.81 A summary checklist for hot and cold water services showing recommended frequency of activity is given in Table below.

Tests for Temperature Performance

Frequency	Check	Cold water	Hot water	Notes
Monthly	***Sentinel outlets**	**The water temperature should equilibrate below 20°C after draw-off for 2 minutes [1,2]**	**The water temperature should equilibrate to at least 50°C after draw-off for1 minute [3]**	**These measurements are applicable to non-mixed outlets only**
Monthly	**Inlets to sentinel TMVs**	**Temperatures as above**	**Temperatures as above**	**Measurements can be made by means of surface temperature probes**
Monthly	**Water leaving and returning to calorifier**			**Also to be monitored continuously by BEMS i.e. 60^{o}C flow and 50^{o}C return minimum**

6-monthly	**Incoming cold water at inlet to building – in the winter and in the summer**	**The water should be below 20°C** [2]	**Also to be continuously monitored by BEMS**
Annually	****Representative outlets**	**The water temperature should equilibrate below 20°C after draw-off for 2 minutes** [1,2]	**The water temperature should equilibrate to at least 50°C after draw-off for 1 minute** [3]

3.82 Sentinel outlets are normally those that – on a hot water service – are the first and last outlets on a recirculating system. On cold water systems (or non-recirculating hot water systems), they are the closest and furthermost from the storage tank (or water heater). The choice of sentinel taps should also include other outlets that are considered to represent a particular risk, for example those installed in accommodation in which particularly susceptible patients are treated, or others identified in the risk assessment and temperature mapping exercise as having the least satisfactory temperature performance.

****Representative outlets include conventional and mixed-temperature taps; 20% of the total number installed throughout the premises would be tested annually on a rotational basis: that is, all taps checked every five years.**

Notes associated with above table:

1. The Health and Safety Commission's Approved Code of Practice L8 permits a period of two minutes to achieve an equilibrium temperature below 20°C. Achieving this minimum requirement would be indicative of an exceptionally underutilised water system. (At a typical flow to a hand-wash basin of 4.5 litres/m, 2 minutes to achieve temperature would indicate a 50 m dead-leg of 15mm pipe.)

2. The Water Supply (Water Quality) Regulations 2001 & 2010 permit water undertakers to supply water to premises at temperatures up to 25°C. In practice, the water temperature is likely to be below this maximum value, typically below 10°C in winter and 20°C in summer. If, during prolonged periods of high environmental temperature, the water temperature starts to exceed 20°C, the water authority should be asked to see whether remedial action could be undertaken. Within the curtilage of the premises, the aim should be to ensure that the temperature difference between the incoming supply and most distal parts of the distribution system is below 2°C. 3. The Health and Safety Commission's Approved Code of Practice L8 permits a period of 1 minute to achieve an equilibrium temperature of 50°C. A minimum of 55°C may be required for the operation of suitable mixing devices required to provide 'safe' hot water at the upper limit of the recommended range. Hot water at 55°C is required in many cases for reasons of food hygiene or decontamination requirements, for example in kitchens and sluice rooms etc. In a properly balanced hot water circulating system, with the circulation taken close to the draw-off point, achieving temperature should be virtually instantaneous. (At a typical flow to a hand-wash basin of 4.5 litres/m, 1 minute to achieve temperature would indicate a 25m dead-leg of 15mm pipe.)

Water Sampling

3.83 Samples should be taken from key areas where it is known that patient groups are most vulnerable and a collection regime at the very least should include samples from these areas along with any additional areas on the site. The number of samples taken should be based on inpatient activity and as a rule of thumb 5% of inpatient capacity should be seen as a minimum

Flexible Pipe Work

3.84 Flexible pipe work used to connect appliances is to be systematically replaced at a rate of 5% per year to fall in line with the recommendations published in a Safety Action Notice published by Health Facilities Scotland

3.85 Piping removed will be subject to testing for Legionella bacteria which may be within the bio-film of the flexible inner sheath of these pipes
Results obtained are to be recorded in a 'Site Log' which will be maintained on each site specifically for this purpose

4. Additional Information used in NHSGG&C for Management of Plant and Systems

Hot Water Calorifiers

4.1 There are two heat sources used for calorifier heating, water to water and steam to water, for Legionella control the maintenance procedures are the same
.
4.2 There is a recommendation that calorifiers are drained quarterly to reduce sludge, from our experience this will depend on age and location of plant therefore this may vary from site to site however it will be recorded in the log book for that particular system.

4.3 Where additional capacity in calorifier storage or production has been identified calorifiers have been taken off line and left drained and open.

4.4 Calorifier temperature monitoring in most hospitals is by means of the Building Management System, if available, otherwise it is a manual check.

4.5 Work on calorifiers is generated by the FMFirst/Appollo Computerised Maintenance System. Even defects identified during routine visual check must be logged on this system

Note: If a calorifier is taken out of service, or is to be put back in service, or its flow temperature falls below 45°C for any reason, the calorifier must be pasteurised before it is allowed back on line.
(With calorifier off line raise temperature to >60°C and hold for one hour).

4.6 Each DHW Calorifier must have a continual running record of service (in FMFirst/Appollo) whether the service is carried out as part of the PPM system, or due to DHW Calorifier failure, both actions are covered by this operational procedure.

Complete and sign Log. Appendix 3

Routine Cleaning Of Potable Water Storage System.

4.7 The following will be carried out within a regular PPM of a Potable Water Storage System;

4.8 Before starting the cleaning process measure and record on Log Sheet (Appendix 4) the Cold water supply temp, Surface Temp and Outflow temp. All further information must be noted on Log Sheet.

- Inspect water surface for signs of scum, slime and note any smell;
- Isolate the tank, supply and outflow;
- Chlorinate the contents of the tank to 50 ppm free residual chlorine and allow to stand for 1 hour;
- If tank is large or heavily contaminated, circulate the contents without splashing to ensure chlorine comes into contact with all surfaces;
- All relevant PPE and risk assessments must be used and viewed and understood;
- Dilute or neutralise the chlorine and drain the cistern
- Inspect the cistern and take note of:
  - the amount of sediment present
  - the presence of any algae or slime
  - any other undesirable features
- Clean internally, flush out debris and wash down surfaces with fresh water
- Inspect all surfaces for damage or corrosion, report defects to Team Leader
- Check for presence of condition of mesh screens and invent and overflow
- Check that outside of tank and area around it is clean and free of rubbish
- Measure the CW supply temperature, if greater than 18^{o}C report to Team Leader
- Open supply and fill tank to working level, check operation of float valve
- Chlorinate the contents to 50ppm and allow to stand for 1 hour
- Test Chlorine level is a minimum of 50ppm free residual chlorine
- If not repeat. Dilute or neutralise the chlorine (not greater than 0.1ppm free residual chlorine) and drain tank, check lid/access cover in place
- Refill the tank to its normal working level, and put in line.

Complete and sign Log. Appendix 4

Minor Work on Potable Water systems

4.9 The checklist Appendix 5 is intended to ensure that the NHS GG&C's Water Safety Policy is not compromised. Read the Check List before proceeding. If you can answer

YES to each question carry on with the work. If you have to answer NO to a question see your Team Leaders/Estates Officers for advice. **IF IN DOUBT ASK**

General Check List:

Is the work being undertaken of a minor nature?...e.g.

- replacing a tap, float, valve, etc.
- replacement of short lengths of pipe work
- adding a fitting, such as a washbasin to an existing system.

Are the fittings and materials being used listed in the WRC directory?

Are the fittings in their original packing or have they been drawn directly from store?

Or

Have they been immersed in a 5% solution of chlorine prior to fitting?

Are the basic rules of hygiene being followed? e.g. clean hands, tools and clothing. Surrounding area clean and clear of rubbish.

Is the work being carried out in a way that prevents dirt and debris entering the system? E.g. pipe work ends sealed with temporary plastic caps; open connectors covered with a CLEAN cloth; tanks and cisterns kept covered when not being worked on; steps taken to prevent ground water entering the system.

On completion, have the parts affected by the work been thoroughly flushed with clean water before being put back in use?

Have any changes been recorded on the system's schematic drawings?

Complete and sign Log. Appendix 5

Water Systems Temporary Out of Use

4.10 The checklist Appendix 6 is intended to ensure that the NHS GG&C's Water Safety Policy is not compromised. Read the Check List before proceeding. If you can answer YES to each question carry on with the work. If you have to answer NO to a question see your Team Leaders/Estates Officers for advice. **IF IN DOUBT ASK**

4.11 The following basic procedure must be used:

- Draw water from each domestic outlet in turn, working away from the mains that supply the system. Where possible use a method that creates the least amount of splashing, e.g. discharge showers with the head removed; when flushing fire hoses, either discharge them gently directly to drain or under water in a sink/basin until they run cold.
- Draw the water for at least 3 minutes at each outlet.
- Flush all WC cisterns.
- Make sure that there is sufficient water in all waste traps to form a seal.

- If any of the water drawn off was discoloured, list the outlet(s) affected under COMMENTS.

- If sediment was being discharged with the water, list the outlet(s) affected under COMMENTS

- Have all the fittings been flushed? If not list the ones omitted in the COMMENTS box at the foot of the form.

- Is the system still out of regular use? If yes continue flushing.

Complete and sign Log. Appendix 6

Disconnection of Water Supply to Equipment

4.12 Any equipment being disconnected must be logged on form Appendix 7 and form forwarded to Authorised Person (Water)

Complete and sign Log. Appendix 7

4.13 If equipment is to be out of service for more than 5 days the Authorised Person (Water) must introduce a flushing regime (See Appendix 2).

Complete and sign Log. Appendix 2

Scalding To Patients or Staff and Water Quality.

4.14 With water being circulated at 60ºC there is the potential to scald patients or staff. To prevent this warning notices are placed at outlets providing water at 60ºC warning staff of the danger.

4.15 In patient areas thermostatic mixing valves (TMV) are fitted limiting the temperature to 43ºC.

4.16 All new TMVs are commissioned by a Competent Person; the commissioning documentation is filed in the Supervisor's Office. Documentation will include: – location, bar code number (where applicable) and operating temperature.

4.17 Temperature checks on sinks, baths and showers are carried out by trained staff or competent contractors. The checks are to prevent scalding and monitor water quality in respect of temperature. The TMV log sheet should be updated after these checks (see Appendix 10).

4.18 These reports are reviewed by the Authorised Person (Water) and outlets outside limits are maintained or replaced.

4.19 Further guidance on TMV selection and recording/commisioning log is given at Appendices 9 & 10

Complete and sign Log. Appendix 10

Baths

4.20 All temperature checks on baths are covered by clinical staff and temperature recorded.

4.21 Twice per year mixer valves are serviced, temperature checked and the results logged.

4.22 Records are passed to the Authorised Person (Water) who then will produce a job card if any temperatures are out of sync (above or below agreed temperatures).

4.23 Hot Water Outlets which exceed the 43ºC Scald Check Maximum Permissible are to be taken out of service until rectified

'Safe' Hot Water and Surface Temperatures

Water Temperatures and delivery devices.

4.24 The risk of scalding for patients (children and young people, older people, and people with disabilities) and staff is a particular problem in healthcare premises caring for such individuals, and therefore thermostatic mixing devices will be needed for many hot water outlets, with different temperatures required for differing toiletry needs. A risk assessment will be necessary to establish the need and type of device to be installed.

4,25 Thermostatic mixing valves should comply with the standards of the HTS D08 – 'Thermostatic mixing valves (healthcare premises)'. Thermostatic valves should be tested and accepted by the BuildCert TMV Scheme (http://www.buildcert. com/TMV).

Communication route for Positive results

4.26 It is important that when any positive results for *Legionella pneumophila Serogroup 1* are communicated immediately through the reporting structure as per Appendix 8

Intermittant Use Outlets

4.27 The estates department is required to ensure that on a quarterly basis the list of 'intermittent' or 'infrequently' used water outlets or showers is reviewed to ensure it is accurate and up to date. The Responsible Person (Water) shall also carry out an annual formal review of this information to ensure compliance with SHTM 04-01.

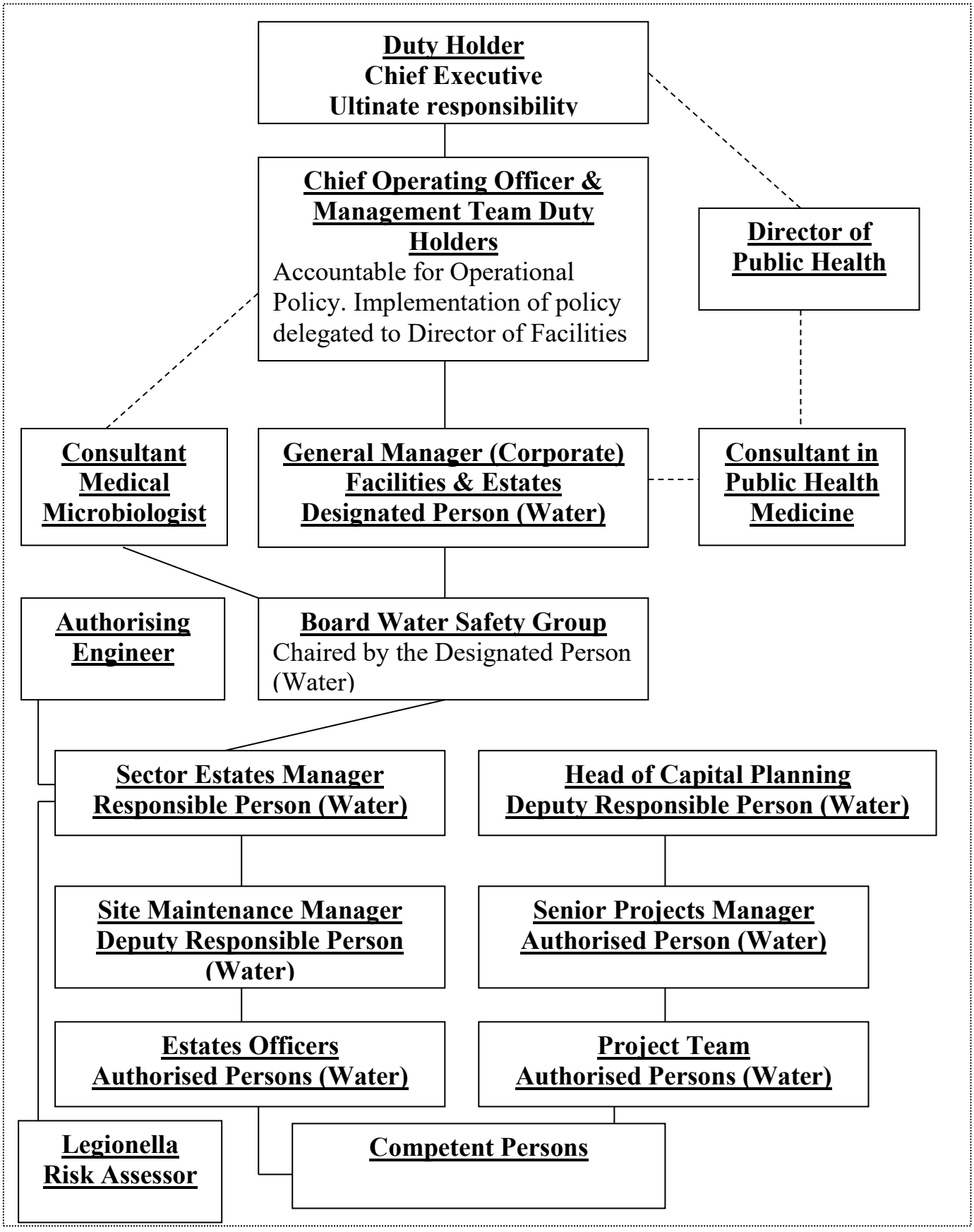
4.28 Records of these reviews will be held within the system logbooks held locally.

4.29 If after investigation the taps or appliances identified within the reviewed list are deemed not necessary wherever possible the supply should be cut and the appliance removed from the water system. Where this is not possible then pipework shall be cut back as close to the main circulating line as practicable to ensure that any deadleg formed is minimised.

4.30 Nursing and other staff must be made aware of the issues surrounding legionella contamination and the link to low and underused water outlets and their assistance in formally identifying these possible outlets are sought

4.31 The SOP at Appendix 11 should be used to ensure that the risks identified above are minimised and that there is in place a standard approach to managing ‘intermittent’ or ‘infrequently’ used water outlets across NHS Greater Glasgow & Clyde (NHSGG&C).

Appendix 1 **Hierarchy Diagram**



Appendix 1 (Continued)

Authorised Persons (Water) will be selected from the following Table and appointed to specific Written Schemes within their Sector:

Legionella Role	Name	Appointment	Generic Title	Phone
The Duty Holder			Chief Executive	
Duty Holders			Chief Operating Officer	
			Director of Facilities	
Designated Person (Water)		In writing by CEO for CE on xx	General Manager (Corporate)	
Authorising Engineer (Water)		In writing by DoF or GM (Corporate)		
Responsible Person (Water)		In writing by DoF or GM (Corporate)	Sector Estates Manager	
Deputy Responsible Person (Water)		In writing by DoF or GM (Corporate)	Site Maintenance Manager	
Deputy Responsible Person (Water)		In writing by DoF or GM (Corporate)	Head of Capital Projects	
Authorised Person (Water)		In writing by DoF or GM (Corporate)	Estates Officer, Supervisor, Water Technician	
Competent Person (water)		In writing by AP	Plumber	
Legionella Risk Assessor		In writing by Responsible Person (Water)	Sector Estates Manager	

Appendix 2:

Example of Flushing Record for Flushing Regime

(Where area/ward has been out of use for over 5 days)

DAILY FLUSHING OF ALL WATER OUTLETS

WARD/AREA	ROOM NUMBER	DATE	SIGNATURE

Appendix 3

SHEET NO:_____

D H W CALORIFIER

LOCATION

ASSET NO

TEMPERATURE REQUIRED FLOW > 60^{O}C
RETURN >50^{O}C

IF FLOW OR RETURN TEMPERATURE FALLS BELOW RECOMMENDED LEVELS CONTACT ESTATES OFFICER

I.D. NO

DATE	JOB NO.	DRAIN PASTEURISED	FLOW TEMP	RETURN TEMP	ON / OFF LINE	WORK CARRIED OUT / COMMENTS	TRADESMAN'S SIGNATURE

Appendix 4

ROUTINE CLEANING OF POTABLE STORAGE TANKS	**LOG NO**	

BUILDING - LOCATION	
SYSTEM IDENTIFICATION	

PROCEDURE	SATISFACTORY	
	/	X
Measure and record the following temperatures: CW supply ºC Surface ºC Incoming CW supply at the meter ºC Outflow ºC		
Inspect the water surface for signs of scum or slime and note its smell		
Isolate the tank CW supply and outflow		
Chlorinate the contents of the tank to 50ppm free residual chlorine and allow to stand for 1 hour **NB: Only if the tank is large or heavily contaminated circulate contents without splashing to ensure that the chlorine comes into contact with all surfaces and any sediment**		
Dilute or neutralise the chlorine and drain the cistern		
Inspect the cistern and take note of:- 1. the amount of sediment present 2. the presence of any algae or slime 3. any other undesirable features		
Clean internally, flush out debris and wash down surfaces with fresh water		
Inspect all surfaces for damage or corrosion, report defects to Team Leader		
Check for presence and condition of mesh screens in vent and overflow		
Check that outside of tank and area around it is clean and free of rubbish		
Measure the CW supply temperature, if greater than 18ºC report to Team Leader		
Open supply and fill tank to working level, check operation of float valve		
Chlorinate the contents to 50ppm and allow to stand for 1 hour		
Test Chlorine level is a minimum of 50ppm free residual chlorine		
If not repeat		
Dilute or neutralise the chlorine (not greater than 0.1ppm free residual chlorine) and drain tank, check lid/access cover in place		
Refill the tank to its normal working level, and put on line		
COMMENTS:-		
PROCEDURE COMPLETED BY: PRINT NAME: DATE		
ACTION REQUIRED:		
Team Leader/Estates Officers: DATE:		

Appendix 5

MINOR WORK ON POTABLE WATER SYSTEMS

LOG NO	

BUILDING - LOCATION	
SYSTEM IDENTIFICATION	
DESCRIPTION OF THE PROPOSED WORK	

The following check list is intended to ensure that the NHS GG&C Estates Department's Water Safety Policy is not compromised. Read the check list before proceeding. If you can answer YES to each question carry on with the work. If you have to answer NO to a question see your Team Leader/Estates Officers for advice. **IF IN DOUBT ASK.**

GENERAL CHECK LIST	SATISFACTORY	
	/	X
Is the work being undertaken of a minor nature? eg. replacing a tap, float, valve, etc. replacement of short lengths of pipework. adding a fitting, such as a wash basin to an existing system		
Are the fittings and materials being used listed in the WRC directory?		
Are the fittings in their original packing or have they been drawn directly from store? OR Have they been immersed in a 5% solution of chlorine prior to fitting?		
Are the basic rules of hygiene being followed? eg. clean hands, tools and clothing. Surrounding area clean and clear of rubbish?		
Is the work being carried out in a way that prevents dirt and debris entering the system? eg. pipework ends sealed with temporary plastic caps open connectors covered with a CLEAN cloth tanks and cisterns kept covered when not being worked on steps taken to prevent ground water entering the system		
On completion, have the parts affected by the work been thoroughly flushed with clean water before being put back in use?		
Have any changes been recorded on the system's schematic drawings?		

COMMENTS:-
PROCEDURE COMPLETED BY: PRINT NAME: DATE
ACTION REQUIRED:
Team Leader/Estates Officers: DATE:

Appendix 6

WATER SYSTEMS TEMPORARILY OUT OF USE

LOG NO	

To be used when any domestic water system is taken out of regular use

BUILDING - LOCATION	
SYSTEM IDENTIFICATION	

The following check list is intended to ensure that the NHS GG&C Estates Department's Water Safety Policy is not compromised. Read the check list before proceeding. **IF IN DOUBT ASK.**

PROCEDURE	SATISFACTORY	
	/	X
Draw water from each domestic outlet in turn, working away from the mains that supply the system. Where possible use a method that creates the least amount of splashing eg discharge showers with the head removed when flushing fire hoses, either discharge them gently directly to drain or under water in a sink/basin until they run cold. Draw the water for at least 3 minutes at each outlet. Flush all WC cisterns. Make sure that there is sufficient water in all waste traps to form a seal.		
If any of the water drawn off was discoloured, list the outlet(s) affected under COMMENTS. If sediment was being discharged with the water, list the outlet(s) affected under COMMENTS		
Have all fittings been flushed? If not list the ones omitted in the COMMENTS box at the foot of this form		
Is the system still out of regular use?		
COMMENTS:-		
PROCEDURE COMPLETED BY: PRINT NAME: DATE		
ACTION REQUIRED:		
Team Leader/Estates Officers: DATE:		

Appendix 7

Notification of Disconnection of Water Supplies to Equipment

The following information must be adhered to during disconnection of water services for equipment removal.
Person isolating the water services must ensure that the valve is not passing after removal of equipment.
Completed form to Maintenance Supervisor (Building).
Isolation of water services other than disconnection of equipment must be undertaken using Permit To Work system through the Authorised/Responsible persons.

Ward/Dept Room No ……

Equipment Removed ……

Date of Removal ……

Name/Designation ……

Signature ……

Date of Reconnection ……

Name/Designation ……

Signature ……

Appendix 8

Communication of positive results for Legionella from water samples in NHSGG&C

Purpose of this document is:

1. To provide a framework for communication which will ensure that appropriate actions are taken when Legionella is found in water samples.
2. To assure senior management that the risk is being managed safely.

The potential hazard from Legionella in water in our hospitals is minimised by:

- appropriate design
- planned maintenance
- flushing of little used water outlets
- monitoring of water temperatures
- use of chlorine dioxide

Policies and practices are regularly reviewed by external assessors, and have been assessed by Health and Safety Executive (HSE). NHS GG&C is compliant with HSE guidance for Legionella control

Legionella infection in patients is rare, but we believe we are successful in identifying such cases promptly. This requires a high level of clinical suspicion and use of appropriate diagnostic tests. We have state-of-the-art diagnostic tests to identify Legionella in patients, and full investigations are carried out on any case where Legionella is suspected

In this context, water testing/sampling is a final layer of assurance. There is a programme of regular water testing in all NHS GG&C hospitals. The vast majority of samples are found to be negative. Most positive results are at a low level and in very limited number of outlets, and do not represent an immediate hazard. Where samples are found to be positive, further action is taken as outlined below. There is an ongoing process to reduce the amount of historical sampling within the hospital estates and this is currently being discussed and agreed at the NHSGG&C Board Water Safety Group.

Actions to be taken when Legionella is found in hot and cold water systems
(from The control of legionella bacteria in water systems. ACOP L8. HSE 2000 , P48)

Legionella bacteria (cfu/Litre)	Action required
More than 100 but less than 1,000	a) If only one or two samples are positive, system should be re-sampled. If a similar count is found again, a review should be carried out to identify any remedial actions b) If the majority of samples are positive, the system may be colonised, albeit at low level, with legionella. Disinfection of the system

	should be considered but an immediate review of control measures and risk assessment should be carried out to identify any other remedial actions required.
More than 1,000	The system should be re-sampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system.

Communication pathway for Legionella results from water samples

Water samples are sent to privately run, UKASS-accredited external laboratories which provide this service for NHS and other organisations that manage buildings. Reports will come back initially to the estates with copies send to the local IC contact.

Negative water samples are recorded as part of the documentation of Legionella control. If they are related to investigation of an “incident” such as a clinical case or a previous positive sample then these results are communicated to those managing that incident.

Positive water samples.

The information on the report which needs to be communicated is

- Date of sampling
- Location and type of water outlet
- Identification of the organism, (Legionella pneumophila with serogroup, or Legionella species other than L pneumophila.)
- Count of organisms per Litre.

Estates will inform

a) The Estates staff responsible for dealing with the particular water system. They will inspect the system and take further action in accordance with HSE guidance and locally agreed procedures
b) Charge Nurse and or Clinical Nurse Manager of the Clinical Area concerned
c) Lead Nurse/Infection Control Manager for Infection Prevention and Control
d) Infection Control Nurse (ICN) for the site.
e) Director of Facilities/Corporate GM/GM

Additionally estates will recommend action around the outlet(s) where positive water samples have been found, however it is not the responsibility of estates to recommend closure of any clinical area.

ICN will

a) Discuss with Charge Nurse for area concerned if required
b) Discuss with a Consultant Microbiologist if required
c) Escalate to Lead Nurse/Infection Control Manager for Infection Prevention and Control any concerns

Further discussion and decision making may be required which may mean that a risk assessment is needed.

The initial Risk Assessment could lead to three possible recommendations

1. Estates action only. No immediate threat to patients. One or more water outlets may be taken out of use until clearance is obtained.
2. Impact on patient care. Bed closures may be required to prevent risk
3. Impact on patient care and risk of patients having been infected.

The results of this initial risk assessment must be communicated to all those noted above and also to the Facilities General Manager for the site involved.

The Infection Control Manager for Infection Prevention and Control will inform NHS GG&C

If there is impact on patient care then a Incident Group, which will include Health Protection Team, should be convened to assess the risk and further actions.

Appendix 9

Guidance on temperatures and types for TMV's

Area/activity	Recommended temperature (°C)	Type of device (see MES D08 for example explanation of valve types)
Staff bases, ward and consulting rooms etc basins In-patient, out-patient hand-wash basins	41	Type 3 Thermostatic
General areas to which staff and visitors may have access See note 3 below	41	Type 2 Thermostatic
Paediatric baths	40 - to allow for the cold paediatric bath/sink NB: Paediatric nurses should always use a thermometer	Type 3 Thermostatic
General baths	43	Type 3 Thermostatic
Showers	41	Type 3 Thermostatic
Assisted baths	46 - to allow for the cold mass of the bath NB: Nurses should always use a thermometer before immersing patients	Type 3 Thermostatic
Hair-wash facilities	41	Type 3 Thermostatic
Bidets	38	Type 3 Thermostatic
All sinks, kitchens, pantries, slop sinks etc	55 - minimum required for food hygiene and decontamination purposes	Separate hot and cold taps or combination tap assembly Type 1; no preceding thermostatic device
Office, staff-only access areas hand-wash basins	43	Type 1

Appendix 10

Thermostatic Mixing Valve Commissioning Sheet

Property		**Floor Level**	
Room No		**Room Description**	
Installation Date		**Valve/Asset ID**	
Manufacturer		**Model Type**	
Servicing e.g. bath, shower, whb, sink, bidet etc			
Outlet water temperature set at °C (see below for settings)			
Location of TMV e.g. under whb, panel access, above ceiling etc			
Location of Hot and Cold-Water isolation valves			

1. Hot Water Delivery Pressure: ……. bar
   Hot Water Delivery Temperature: ...…….°C

2. Cold Water Delivery Pressure: ……. bar
   Cold Water Delivery Temperature: ……..°C

3. Mixed temperature water flow rate: ……. lpm

4. Does the valve comply with NHS DO8 spec? Y / N

5. Are the hot & cold water delivery pressures within the range of the valve specification? Y / N

6. Are the hot & cold water delivery temperatures within the range of the valve specification? Y / N

7. Does the cold water non return valve work correctly? Y / N

8. Does the hot water non return valve work correctly? Y / N

9. Valve outlet temperature at full flow rate 1st …….°C 2nd ……°C

10. Valve outlet temperature at ¼ flow rate 1st …….°C 2nd ….....°C

11. Isolate cold water to the valve and simultaneously record the highest temperature at the valve 1st …...°C 2nd …….°C

If temperatures at 9, 10 or 11 exceed the following

Bidet: 38°C WHB/Sink: 41°C Shower: 41°C Bath: 44°C

Re-clean the valve and repeat tests 9, 10 and 11

Temperature measuring device used: Serial No …… Date of Calibration ……...

Name: ……..... Signature: ……..…. Date: ……..…..…

Appendix 11

NHS Greater Glasgow and Clyde

WATER SAFETY

CONTROL OF LEGIONELLA IN WATER SYSTEMS
INTERMITTENTLY USED WATER OUTLETS AND SHOWERS

STANDARD OPERATING PROCEDURE WS01

CONTROL OF LEGIONELLA IN WATER SYSTEMS
INTERMITTENTLY USED WATER OUTLETS AND SHOWERS

Introduction

NHS Greater Glasgow and Clyde is committed to complying with all extant and developing legislation with regards to the control of Legionella as per Scottish Health Technical Memorandum (SHTM) 04-01 and as such the purpose of this Standing Operational Procedure (SOP) is to identify, where practical, ALL water outlets (sinks, showers, baths etc) where they are used in an 'intermittent' or infrequent manner therefore causing a potential risk of Legionella to patient, visitor and staff alike.

The estates department is required to ensure that on a quarterly basis the list of 'intermittent' or 'infrequently' used water outlets or showers is reviewed to ensure it is accurate and up to date. The Responsible Person (Water) shall also carry out an annual formal review of this information to ensure compliance with SHTM 04-01.

Records of these reviews will be held within the system logbooks held locally.

If after investigation the taps or appliances identified within the reviewed list are deemed not necessary wherever possible the supply should be cut and the appliance removed from the water system. Where this is not possible then pipework shall be cut back as close to the main circulating line as practicable to ensure that any deadleg formed is minimised.

Nursing and other staff must be made aware of the issues surrounding legionella contamination and the link to low and underused water outlets and their assistance in formally identifying these possible outlets are sought

The following template documents (Appendices A-D) within this SOP should be used to ensure that the risks identified above are minimised and that there is in place a standard approach to managing 'intermittent' or 'infrequently' used water outlets across NHS Greater Glasgow & Clyde (NHSGG&C).

Please ensure any issues you may have with the content of this SOP is forwarded to the NHSGG&C Water safety Group.

M E M O R A N D U M

To: All Wards and Departments.

From:

Date:

Subject: **CONTROL OF LEGIONELLA IN WATER SYSTEMS – INTERMITTENTLY USED WATER OUTLETS AND SHOWERS**

This memo is directed at staff with responsibility for the management of Healthcare Premises, Wards or Departments within …….., and includes all CHP, MHP and Acute premises (where relevant).

To reduce the risk of colonisation and maintain control of water borne legionella bacteria in our Hot and Cold Water Supplies, it is essential to identify and record infrequently used water appliances. These can take the form of a wash hand basin, bath, shower, tap outlet or equipment such as water chillers, pressure washer, dishwasher, sluice, ice dispenser – **anything connected to the water supplies.**

In order that any potential risk of infection can be properly managed, I would ask that you provide the following information to the sender.

(i) Details of any appliances connected to the water supplies, which are necessary to retain, but which are being used less than weekly.

(ii) Details of any flushing regimes in place for appliances included in item 1 above.
NB Present guidance requires that infrequently used outlets are flushed at least twice per week for a period of 3 minutes. A record of this must be retained at Ward/Dept level. You may be asked to produce this information for monitoring purposes or in the event of system colonisation.

(iii) Details of any redundant water outlets i.e. those, which are no longer required. The Estates Dept will upon being notified of such outlets, arrange for their removal at the soonest available opportunity.

If any of the aforementioned applies to your Ward/Dept, I would be grateful if you would complete the attached form and return to the sender within a one-week period.

A.N Other.
Site Maintenance Manager

NHS GG&C …… SECTOR – ESTATE MANAGEMENT
Site:……

Control of Legionella Bacteria in Water Systems
Infrequently Used & Redundant Water Appliances

	COMPLIANCE ISSUE	Ward/Dept and Room Number	Appliance Type
1	Details of any appliances connected to the water supplies that are necessary to retain but which are being used less than weekly.		
2	Details of any flushing regimes in place for appliances included in item 1 above. **NB Present guidance requires that infrequently used outlets are flushed at least twice per week for a period of 3 minutes. A record of this must be retained at Ward/Dept level. You may be asked to produce this information for monitoring purposes or in the event of system colonisation.** E.g. Recorded in Ward Diary or Department Log – Separate log not necessary provided evidence of flushing can be produced if required.		
3	Details of any redundant water outlets i.e. those, which are no longer required. The Estates Dept will upon being notified of such outlets, arrange for their removal at the soonest available opportunity.		

Signed:…… Date:……..

.....HOSPITAL ESTATE MANAGEMENT		CONTROL OF LEGIONELLA		Memo Returned	Department log checked	Memo Returned	Department log checked	Memo Returned	Department log checked	Memo Returned	Department log checked
Monitoring of little used outlets and simulated usage by directorates and departments											
LEVEL	DEPARTMENT	DIRECTORATE	SUB	Quarter 1 (Month)		Quarter 2 (Month)		Quarter 3 (Month)		Quarter 4 (Month)	

NHSGG&C WATER SAFETY – CONTROL OF LEGIONELLA ……HOSPITAL INDEX OF 'INTERMITTENT' or 'INFREQENTLY' USED WATER OUTLETS AND SHOWERS					
BUILDING No/NAME	**LEVEL**	**ROOM**	**OUTLET DESCRIPTION**	**DATE ON INDEX**	**REMARKS**

This SOP applies to all staff employed by NHS Greater Glasgow & Clyde and locum staff on fixed term contracts and volunteer staff.

SOP Objective

To minimise the risk of *Pseudomonas aeruginosa* infection from water.

KEY CHANGES FROM THE PREVIOUS VERSION OF THIS SOP

- None – no previous version

Document Control Summary

Approved by and date	Board Infection Control Committee ……..
Date of Publication	……
Developed by	Infection Control Policy Sub-Group 0141 211 2526
Related Documents	Standard Infection Control Precautions (SICPs) - (HPS National IPC Policy)
Distribution/Availability	NHSGGC Infection Prevention and Control Policy Manual and the Internet www.nhsggc.org.uk/infectioncontrol
Implications of Race Equality and other diversity duties for this document	This policy must be implemented fairly and without prejudice whether on the grounds of ethnicity, gender, sexual orientation, religion, belief, disability or age.
Equality and Diversity Impact Assessment Completed	……
Lead Manager	Board Infection Control Manager
Responsible Director	Board Medical Director

Contents

Introduction

This SOP provides direction and guidance for ward based staff to meet their responsibilities as stated in *HPS(2013) Guidance for neonatal units (NNUs) (levels 1,2&3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water.* This document refers to critical control points 2 – 4 (inclusive) only. (Critical points 1, 5 and 6 are considered in the NHSGGC Water Safety Policy 2013.

*High Dependency Units (HDUs) which are adjoining/ integrated with an ICU should be included in this guidance.

Responsibilities

Senior Charge Nurses (SCNs) must:

- Follow this SOP.
- Keep records of daily flushing for at least one month.
- Inform a member of the local Estates Team if this SOP cannot be followed in relation to flushing water outlets.
- Inform a member of the local Estates Team of infrequently used outlets which could be removed.
- Allow members of the local Estates Team access to complete maintenance as appropriate.

Estates must:

- Undertake actions deemed the responsibility of the local Estates Department as per the Water Safety Policy.
- Keep a record of outlets reported that are deemed to be infrequently used and actions taken by them to remove this risk.
- Provide a report of maintenance actions and issues/ anomalies to the Sector Water Safety Group.
- Support staff locally to undertake their responsibilities in terms of reducing risk associated with pseudomonas.

Managers must:

- Make this SOP available to their staff.
- Support SCNs in following this SOP.

Water Systems Group must:

- Keep this SOP up-to-date.
- Audit compliance with this SOP.
- Provide guidance via the Water Systems Policy.

Critical Point 2: Flushing Water Outlets to reduce the risk of Pipework System Contamination

Flushing of water outlets is necessary to control the build-up of biofilm in water systems to reduce the risk of transmission of pathogens via the environment and equipment to patients.

The Senior Charge Nurse (SCN) in each unit has responsibility (under current guidance) to ensure that the following recommendations are complied with in their area. The SCN should ensure that:

All water outlets are flushed in high-risk environments (adult, paediatric and neonatal ICUs and associated HDU's), daily, first thing in am for 1 minute at full flow (but not so that splashing goes beyond the basin). This must be recorded. (See Appendix 1)

Any problems or concerns relating to the safety, maintenance, reduced usage, any changes in use and cleanliness of all water outlets are identified and reported to the ICT and the Estates Department as relevant.

Critical Points 3 and 4

The risk assessment **Appendix 2** can be used by the SCN as a guide and assessment tool to provide assurance that risks from contamination by *P. aeruginosa* are managed as far as possible by ward staff in adult and paediatric ICUs (and associated HDUs) and neonatal units (levels 1,2 and 3).

Where units do not meet the guidance, an action plan should be developed to remedy any risks identified through this process.

Appendix 1: Critical Control Assessment Tool

for Minimising the Risk of *Pseudomonas aeruginosa* Infection from Water in Neonatal Units (Levels 1, 2 & 3) and Adult/ Paediatric ICUs

Critical Control Point 3: Preventing Direct Water Usage Colonising / Infecting Vulnerable Patients	
3.1	**Washing Babies:** Babies are washed using clean, fresh tap water.
3.2	**Defrosting Breast Milk:** Breast milk is defrosted either: • in a designated fridge • outside fridge at room temperature (discard any milk not used once defrosted) OR • using a warming/ defrosting device designed to ensure no direct contact with the bottle/ syringe with non-sterile water.
3.3	**Warming Breast/ Formula Milk:** • Milk is taken out of fridge one hour prior to use OR • Milk is warmed using a warming device designed to ensure no direct contact with the bottle/ syringe with non-sterile water.
3.4	**Use of Ice:** Ice is not used for direct baby care in NNUs (all levels). **Note**: There is no restriction on the use of water for washing, drinking or oral hygiene by adults and paediatrics.

Critical Control Point 4: Preventing Indirect Contact with *P. aeruginosa* from Colonised/ Infected Patients	
4.1	**Hand Wash Stations:** • Clinical hand wash sinks are used for hand washing only. • Clinical Hand wash sinks are cleaned at least daily as per national Cleaning Specification.
Critical Control Point 4: Preventing Indirect Contact with *P. aeruginosa* from Colonised/ Infected Patients	
4.2	**Aseptic Procedures:** Aseptic procedures are prepared and/ or performed in an area where there are no concurrent procedures being undertaken that generate splashing which could contaminate a sterile surface.
4.3	**Aerosol Generating Procedures:** Existing guidance for aerosol generating procedures is followed.
4.4	**Discarding Potentially Contaminated Fluids:** • Small volumes of fluid, e.g. ET/ ventilator condensate, baby washing water (<50mls) are discarded into clinical waste bags. • Larger volumes, e.g. bath water etc, are safely transported to a sink (not a hand wash sink) or sluice.
4.5	**Suction/ Chest Drain Bottles:** Disposable suction container liners are sealed and discarded in a suitable container.

4.6	**Equipment Decontamination:** All re-usable equipment is thoroughly dried following decontamination.
Critical Control Point 4: Preventing Indirect Contact with *P. aeruginosa* from Colonised/ Infected Patients	
4.7	**Humidifiers:** • Humidifiers on incubators: Only sterile or distilled water is used to fill and top up. • Re-usable humidifiers are decontaminated in a Central Decontamination unit (CDU).
4.8	**Storage of Equipment:** Patient equipment is not stored where they may be exposed to splash contamination.
4.9	**Non-Clinical Procedures that Create a Spray:** • Spray bottles are not used where possible. • Fluid containers e.g. spray bottles used for cleaning are not topped up. • Spray bottles are not used in areas where aseptic procedures are being prepared or are ongoing.

From: Powrie, Ian
To: Wallace, Stephen
Subject: Hard FM Staff Org Change redeployment
Date: 25 July 2014 13:03:00
Attachments: NSGH staffing transfer profile.xlsx
Importance: High

Stephen

Can you please provide me with the detail of the number of staff by post for each demitting site that is scheduled to transfer to the NSGH, I need this today to prepare a NSGH staff population profile by month.
(Copy attached FYI)

Regards

Ian

I. Powrie

Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

NSGH Estates
Proposed Staffing Transfer Programme

			Technicians			Core Trade					Primary Focus
	EO's	Supervisor's	Electical	Mechanical	Plumbing	Joiner	Painter	Builder	MA	Total	
Oct	5	0	5	3	3	0	0	0	0	16	NSGH Critical systems Train the trainer & detailed NSGH site familiarisation.
Nov	5	0	5	3	3	0	0	0	0	16	
Dec	5	0	5	3	3	0	0	0	0	16	Pre handover: Detailed site familiarisation for effective site operation and management (rotation
Jan	5	0	5	3	3	0	0	0	0	16	
Feb	8	3	6	6	4	2	0	0	3	32	Brookfield: Full System specific familiarisation training programme & support NSGH operational commissioning (12 week period).
Mar	8	3	6	6	4	2	0	0	3	32	
April	8	3	6	6	4	2	0	0	3	32	Support NSGH operational commissioning (12 week period).
04/05/2015											Southern General
17/05/2015											Victoria + MH
07/06/2015											Western Infirmary

From: Stewart Ian (NATIONAL SERVICES SCOTLAND)
To: Gerry Cox; McInally Iain (NHS AYRSHIRE & ARRAN); Mather Ged (NHS BORDERS); Bennett David (NHS TAYSIDE); Conway Mark (NHS TAYSIDE); Bruce David (NHS TAYSIDE); Bryson David (NHS DUMFRIES & GALLOWAY); Davidson Graham (NHS GRAMPIAN); MacDonald Robert (NHS HIGHLAND); Wilson Alan (NHS FIFE); Johnstone Alistair (NHS DUMFRIES & GALLOWAY); O"Brien Geraldine (NATIONAL SERVICES SCOTLAND)
Cc: Powrie, Ian; Storrar Ian (NATIONAL SERVICES SCOTLAND); McLaughlan Edward (NATIONAL SERVICES SCOTLAND)
Subject: National Water Services Advisory Group
Date: 28 July 2014 10:26:11
Attachments: 20140807 Meeting.doc
HSG 274.pdf

Good morning,

The next meeting of the Group is scheduled to take place on Thursday 7th August 2014 at 10.00am in Perth Royal Infirmary, reverting to the usual Seminar Room facing the car park.

I am attaching an agenda for the meeting together with a copy of the recently published HSE document HSG 274 Part 2 as I can see no trace of this having been circulated before.

Although Ian Storrar has now assumed responsibility for the Advisory Groups, he will be clearing his desk immediately prior to annual leave on 7th August hence you will have to suffer yours truly for one more meeting.

Please let David Bruce know of your intentions regarding attendance and make any request directly to him if you require a parking permit.

(Note for David Bruce – in addition to Ian Storrar, apologies have been confirmed from Dave Bennett).

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk
Please consider the environment before printing this email.

NHS National Services Scotland is the common name for the Common Services Agency for the Scottish Health Service. www.nhsnss.org <http://www.nhsnss.org/>

Health Facilities Scotland
Engineering and Environment

NHS National Services Scotland

National Water Services Advisory Group

Agenda

10.00am on Thursday 7th August 2014
Perth Royal Infirmary
Chairman: Gerry Cox

1. **Apologies for absence**. Received from Ian Storrar & Dave Bennett
2. **Jim Alderton**
3. **Approval of Action Points** from meeting held on 15th May 2014.
4. **Matters arising**
   - 4.1 SCART update. *(by GO'B)*
   - 4.2 Chloramination v Chlorination investigation. *(GO'B)*
   - 4.3 Spray Coil installation at Ninewells Hospital *(carried forward - DBB)*
   - 4.4 Business Stream –feedback from NHS Ayrshire & Arran
   - 4.5 Unified procedures update *(IGMS)*
   - 4.6 Horne Engineering Optitherm taps
   - 4.7 H&CWS installation at Great Ormonde St Hospital
5. **SHFN 30**: Update regarding publication and training. *(GO'B)*
6. **Handover checklist** comments received and future action.
7. **New and Revised Guidance**
   - 7.1 SHTM 04-01 Parts A&B *(publication update)*
   - 7.2 SHTM 04-01 Part G *(update)*
   - 7.3 Further Unified Procedures.
8. **Papers circulated for information**: HSG 274 Part 2
9. **Any other competent business**
10. **Date and time of next meetings**:
    - Thursday 13th November 2014, 10.00am *(at Perth RI)*

NB: This is provisional – previously selected date clashed with Crieff Conference

Legionnaires' disease

Part 2: The control of legionella bacteria in hot and cold water systems

HSG274 Part 2
Published 2014

This guidance is for dutyholders, which includes employers, those in control of premises and those with health and safety responsibilities for others, to help them comply with their legal duties. These include identifying and assessing sources of risk, preparing a scheme to prevent or control risk, implementing, managing and monitoring precautions, keeping records of precautions and appointing a manager responsible for others.

The guidance gives practical advice on the legal requirements of the Health and Safety at Work etc Act 1974, the Control of Substances Hazardous to Health Regulations 2002 concerning the risk from exposure to *Legionella* and guidance on compliance with the relevant parts of the Management of Health and Safety at Work Regulations 1999.

Contents

Introduction

1 This guidance is for dutyholders, which includes employers, those in control of premises and those with health and safety responsibilities for others, to help them comply with their legal duties. It gives practical guidance on how to assess and control the risks due to legionella bacteria.

2 Any water system that has the right environmental conditions could potentially be a source for legionella bacteria growth. There is a reasonably foreseeable legionella risk in your water system if:

- water is stored or re-circulated as part of your system;
- the water temperature in all or some part of the system may be between 20–45 °C;
- there are deposits that can support bacterial growth, such as rust, sludge, scale and organic matter;
- it is possible for water droplets to be produced and, if so, if they can be dispersed;
- it is likely that any of your employees, contractors, visitors etc could be exposed to any contaminated water droplets.

Health and safety law

3 *Legionnaires' disease: The control of legionella bacteria in water systems. Approved Code of Practice*[1] gives specific information on the health and safety law that applies. In brief, general duties under the Health and Safety at Work etc Act 1974 (the HSW Act)[2] extend to risks from legionella bacteria, which may arise from work activities. The Management of Health and Safety at Work Regulations 1999 provide a broad framework for controlling health and safety at work (see www.hse.gov.uk/risk for more information). More specifically, the Control of Substances Hazardous to Health Regulations 2002 (COSHH)[3] provide a framework of duties designed to assess, prevent or control the risks from hazardous substances, including biological agents such as legionella, and take suitable precautions.

4 The essential elements of COSHH are:

- risk assessment;
- prevention of exposure or substitution with a less hazardous substance if this is possible, or substitute a process or method with a less hazardous one;
- control of exposure where prevention or substitution is not reasonably practicable;
- maintenance, examination and testing of control measures, eg automatic dosing equipment for delivery of biocides and other treatment chemicals;
- provision of information, instruction and training for employees;
- health surveillance of employees (where appropriate, and if there are valid techniques for detecting indications of disease) where exposure may result in an identifiable disease or adverse health effect.

5 Under general health and safety law, dutyholders including employers or those in control of premises, must ensure the health and safety of their employees or others who may be affected by their undertaking. They must take suitable precautions to prevent or control the risk of exposure to legionella. They also need to either understand, or appoint somebody competent who knows how to identify and assess sources of risk, manage those risks, prevent or control any risks, keep records and carry out any other legal duties they may have.

Other relevant legislation

6 Employers must be aware of other legislation they may need to comply with, which includes the Notification of Cooling Towers and Evaporative Condensers Regulations 1992;[4] Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR);[5] the Safety Representatives and Safety Committees Regulations 1977 and the Health and Safety (Consultation with Employees) Regulations 1996.[6]

Notification of Cooling Towers and Evaporative Condensers Regulations 1992

7 These Regulations require employers to notify the local authority, in writing, if they operate a cooling tower or evaporative condenser and include details about where they are located. The Regulations also require notification when such devices are no longer in use. Notification forms are available from your local environmental health department.

Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR)

8 These regulations require employers and those in control of premises to report accidents and some diseases that arise out of or in connection with work to HSE. Cases of legionellosis are reportable under RIDDOR if a medical practitioner notifies the employer; and the employee's current job involves work on or near cooling systems that are located in the workplace and use water; or work on water service systems located in the workplace, which are likely to be a source of contamination. For more information, see HSE guidance at www.hse.gov.uk/riddor/index.htm.

The Safety Representatives and Safety Committees Regulations 1977 and the Health and Safety (Consultation with Employees) Regulations 1996

9 These regulations require employers to consult trade union safety representatives, other employee representatives, or employees where there are no representatives, about health and safety matters. This includes changes to the work that may affect their health and safety, arrangements for getting competent help, information on the risks and controls, and the planning of health and safety training.

Identify and assess sources of risk

10 Carrying out a legionella risk assessment and ensuring it remains up to date is required under health and safety law and is a key duty when managing the risk of exposure to legionella bacteria. In conducting the assessment, the dutyholder must appoint a competent person or persons, known as the responsible person(s), to help them meet their health and safety duties, ie take responsibility for managing the control scheme. If the necessary competence, knowledge and expertise does not exist, there may be a need to appoint someone externally (see paragraphs 16-22).

11 The responsible person(s) appointed to take day-to-day responsibility for managing risks in their business will need to understand the water systems, any equipment associated with the system, and all its constituent parts. They should be able to identify if the water systems are likely to create a risk from exposure to legionella bacteria by assessing if:

- water is stored or re-circulated in the system;
- the water temperature in all or some parts of the system may be between 20–45 °C;
- there are deposits that support bacterial growth, including legionella, such as rust, sludge, scale, organic matter and biofilms;
- it is possible for water droplets to be produced and, if so, whether they can be dispersed;

- it is likely that any of your employees, contractors, visitors, the public etc could be exposed to contaminated water droplets.

12 The practical risk assessment should include a site survey of all the water systems and consider other health and safety aspects of undertaking such investigations, eg working at height or in confined spaces or the need for permits-to-work when doing this.

13 Appendix 2.1 provides information on the key requirements when assessing the risks associated with any water systems. Further information is also available in BS 8580 *Water quality. Risk assessments for Legionella control. Code of Practice*[7] and in The Water Management Society's *Guide to risk assessment for water services*.[8] In summary, the risk assessment should consider and evaluate:

- clear allocation of management responsibilities;
- competence and training of key personnel;
- a description of the water system, including an up-to-date schematic diagram;
- an evaluation of the risk;
- safe operating procedures for the water system, including controls in place to control risks;
- monitoring, inspection and maintenance procedures;
- results of monitoring, inspection and any checks carried out;
- limitations of the legionella risk assessment;
- arrangements to review the risk assessment regularly and particularly when there is reason to suspect it is no longer valid.

Info box: Schematic diagram

A schematic diagram is a simplified but accurate illustration of the layout of the water system, including parts temporarily out of use. While providing only an indication of the scale, it is an important tool as it allows any person who is not familiar with the system to understand quickly and easily their layout, without any specialised training or experience. These are not formal technical drawings but show what the systems comprise of, illustrating plant and equipment, including servicing and control valves, any components potentially relevant to the legionella risk, including outlets, strainers and filters or parts that are out of use.

14 If the risk assessment concludes there is no reasonably foreseeable risk or the risks are insignificant and are managed properly to comply with the law, the assessment is complete. Although no further action may be required at this stage, existing controls must be maintained. The assessment of risk is an ongoing process and not merely a paper exercise. Dutyholders should arrange to review the assessment regularly and specifically when there is reason to suspect it is no longer valid. An indication of when to review the assessment and what to consider should be recorded and this may result from, eg:

- a change to the water system or its use;
- a change to the use of the building where the system is installed;
- new information available about risks or control measures;
- the results of checks indicating that control measures are no longer effective;
- changes to key personnel;
- a case of legionnaires' disease/legionellosis associated with the system.

15 Communication is a key factor in the risk assessment process. The risk needs to be identified and communicated to management to allow them to prioritise remedial actions to control it.

Managing the risk

16 Inadequate management, lack of training and poor communication can be contributory factors in outbreaks of legionnaires' disease. It is important that those people involved in assessing risk and applying precautions are competent, trained and aware of their responsibilities.

17 The dutyholder should specifically appoint a competent person or persons to take day-to-day responsibility for controlling any identified risk from legionella bacteria. It is important for the appointed person, known as the responsible person(s), to have **sufficient authority, competence and knowledge of the installation** to ensure all operational procedures are carried out in a timely and effective manner.

18 The responsible person(s) appointed to implement the control measures and strategies should be suitably informed, instructed and trained and their suitability assessed. Regular refresher training should be given and the responsible person(s) should have a clear understanding of their role and the overall health and safety management structure and policy in the organisation.

19 If a dutyholder is self-employed or a member of a partnership, and is competent, they may appoint themselves. Many businesses can develop the necessary expertise in house and are well equipped to manage health and safety themselves. However, if there are some things they are not able to do, it is important to get external help. If there are several people responsible for managing risks, eg because of shift-work patterns, the dutyholder needs to make sure that everyone knows what they are responsible for and how they fit into the overall risk management of the system.

20 Identifying and deciding what help is needed is very important but it is the responsibility of the dutyholder to ensure those appointed to carry out the tasks given to them have adequate information and support.

21 Dutyholders can use specialist contractors to undertake aspects of the operation, maintenance and control measures required for their water system. While these contractors have legal responsibilities, the ultimate responsibility for the safe operation of the water system rests with the dutyholder. It is important they are satisfied that any contractors employed are competent to carry out the required tasks and that the tasks are carried out to the required standards. The contractor should inform the dutyholder of any risks identified and how the system can be operated and maintained safely.

22 There are a number of external schemes to help you with this, such as the Legionella Control Association's *A Recommended Code of Conduct for Service Providers*.[9]

Preventing or controlling the risk

23 First, consider whether the risk of legionella can be prevented by considering the type of water systems needed. Where the risk cannot be prevented, a course of action must be devised to manage the risk by implementing effective control measures. The written scheme should be specific and tailored to the systems covered by the risk assessment. Appendix 2:2 summaries the key information, which should include the following precautions:

- ensuring the release of water spray is properly controlled;
- avoiding conditions that support growth of microorganisms, including legionella;

- ensuring water cannot stagnate anywhere in the system by regular movement of water in all sections of the systems and by keeping pipe lengths as short as possible, and/or removing redundant pipework and deadlegs;
- avoiding using materials that harbour bacteria and other microorganisms or provide nutrients for microbial growth (the *Water Fittings and Materials Directory*[10] lists fittings, materials, and appliances approved for use on the UK Water Supply System by the Water Regulations Advisory Scheme. Those approved are tested against BS 6920);[11]
- keeping the system and the water in it clean;
- treating water to either control the growth of microorganisms, including legionella, or limit their ability to grow;
- monitoring any control measures applied;
- keeping records of these and other actions taken, such as maintenance and repair work.

Record keeping

24 Where there are five or more employees, the significant findings of the risk assessment must be recorded. If there less than five employees, there is no requirement to record anything although it is useful to keep a written record.

25 Records must be retained for the period they remain current and for at least two years afterwards, with the exception of records kept for monitoring and inspection, which should be kept for at least five years. It may be helpful to keep training records of employees; records of the work of external service providers, such as water treatment specialists; and information on other hazards, eg chemical safety data sheets.

26 Records, either written or electronic, should contain accurate information about who did the work and when it was carried out. All records should be signed, verified or authenticated by a signature or other appropriate means. Records should include details of the:

- person or people responsible for conducting the risk assessment, managing, and implementing the written scheme;
- significant findings of the risk assessment;
- written control scheme and details of its implementation;
- details of the state of operation of the system, ie in use/not in use;
- results of any monitoring, inspection, test or check carried out, the dates and any resulting corrective actions, as defined in the written scheme of precautions, such as:
  - results of chemical and microbial analysis of the water;
  - water treatment chemical usage;
  - inspections and checks on the water treatment equipment to confirm correct operation;
  - inspections and checks on the water system components and equipment to confirm correct and safe operation;
  - records of maintenance to the water system components, equipment and water treatment system;
  - the cleaning and disinfection procedures and the associated reports and certificates.

Types and application of hot and cold water systems

2.1 Hot and cold water systems are those that supply water for domestic purposes (drinking, cooking, food preparation, personal hygiene and washing). This section provides information on the different types, design and use of systems available to supply hot and cold water services.

2.2 Water systems in high risk locations (such as healthcare premises, care homes, residential homes and other situations where those exposed to the water systems are likely to be at high risk of infection) need particular consideration. The risk assessment should consider both the relative risks of legionella and scalding. See paragraphs 2.152–2.168, www.hse.gov.uk/healthservices/ and *Health and safety in care homes*[12] for more information for care settings. Healthcare premises should refer to *Water systems: Health Technical Memorandum 04–01*[13] (for England and Wales), or to *Scottish Health Technical Memorandum 04–01*[14] (for Scotland).

2.3 Those who provide residential accommodation or who are responsible for the water systems in premises must assess the risk from exposure to legionella to residents, tenants, guests and customers and implement control measures, if appropriate. It is also increasingly common for there to be several dutyholders in one building who may also have responsibilities for assessing and managing the risk from legionella. See paragraphs 2.138–2.151 for specific guidance.

2.4 Within hot and cold water systems, the risk areas that support growth of microorganisms, including legionella, are controllable with good design, operation, maintenance and water system management and include:

- the base of the water heater and storage vessel, particularly where incoming cold water reduces the temperature of the water within the vessel and where sediment collects and is distributed throughout the system;
- where optimum temperatures for microbial growth and stagnation occur, eg dead legs, capped pipes (dead ends), infrequently used outlets and areas of the system where there is poor circulation;
- where incoming cold water temperatures are above 20 °C, or there are areas within the cold water system that are subject to heat gain and areas of stagnation where there are deposits to support growth.

Safe operation and control measures

2.5 This guidance provides detailed information on types of water system, design considerations and commissioning systems to ensure risks from exposure to legionella are minimised or reduced as far as is reasonably practicable. There is also guidance on operational and control measures.

2.6 Temperature control is the traditional strategy for reducing the risk of legionella in water systems. Cold water systems should be maintained, where possible, at a temperature below 20 °C. Hot water should be stored at least at 60 °C and distributed so that it reaches a temperature of 50 °C (55 °C in healthcare premises) within one minute at the outlets. For most people, the risk of scalding at this temperature is low. However, the risk assessment should take account of susceptible 'at risk' people including young children, people who are disabled or elderly and to those with sensory loss for whom the risk is greater.

2.7 In addition to temperature control, eg in more complex systems such as large healthcare facilities, additional measures that encourage the regular movement of water are often used to manage the risk from legionella in water systems. The exact techniques may vary significantly in different water systems and operating conditions. Paragraphs 2.80–2.118 give further guidance on the use of water treatment techniques and control programmes.

2.8 The cleanliness of the system must be maintained, as legionella bacteria are more likely to grow in a system fouled with deposits. In hard water areas, softening of the cold water supply to the hot water distribution system should be considered to reduce the risk of scale being deposited at the base of the calorifier and heating coils, and to reduce the potential for scale build-up within the system pipework and components – see paragraphs 2.72–2.73. There is further guidance on cleaning and disinfection techniques and requirements for hot and cold water systems in paragraphs 2.126–2.137.

Hot and cold water systems

2.9 There are many types of water systems supplying hot and cold water services and these vary depending on the size and complexity of the building. Figures 2.1–2.11 are representative diagrams illustrating the range of different types of system or components and are not technical or design installation guides. Combinations and variations are possible, but these systems are broadly grouped as:

- **smaller hot and cold water systems**, eg directly fed mains cold water to outlets with localised point of use (POU) water heaters;
- **gravity-fed cold water systems** incorporating storage tanks (cisterns) and larger water heaters (calorifiers) for the provision of hot water. Hot water systems (HWS) typically operate without secondary hot water recirculation in smaller premises and with recirculation in larger premises. Cold water distribution systems (CWDS) do not normally recirculate cold water and require outlets to be operated to prevent stagnation in adjacent parts of the system;
- **pressurised systems** that can be directly mains fed or incorporate storage and booster pumps supplying cold water and unvented water heaters with or without secondary recirculation.

Smaller hot and cold water systems

2.10 These systems are typically found in smaller buildings such as domestic dwellings and small office buildings where cold water outlets are fed directly from the water supply without storage. Combination boilers or instantaneous water heaters (see Figure 2.1) provide hot water directly from the cold water supply by heating the water as it passes through the heater. These units supply continuous hot water at a rate that is usually limited by their power rating. High flow rates through the units can result in warm water leaving the heater before reaching the target temperature.

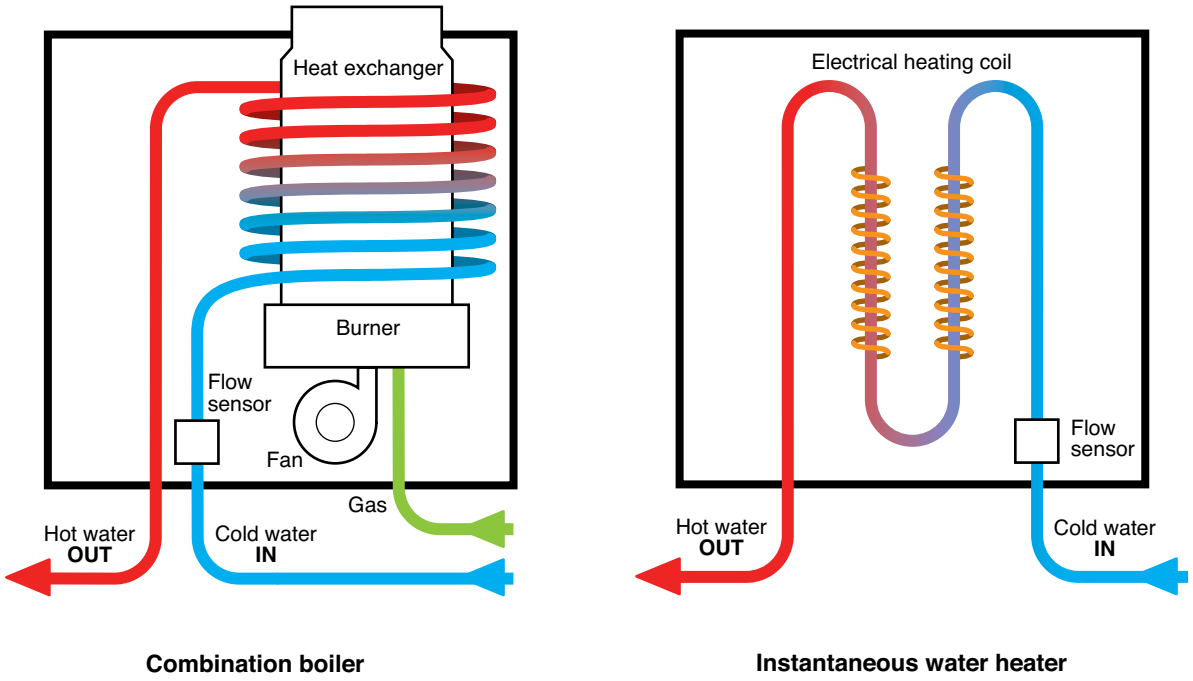


Figure 2.1 Non-storage water heaters

2.11 Low storage volume POU water heaters are those that store no more than 15 litres of hot water (see Figure 2.2). These systems generally heat water to a set point that is often variable via a simple dial on the unit. These systems deliver a small volume of stored hot water before they need to be left to recover and bring the temperatures back to the set point.

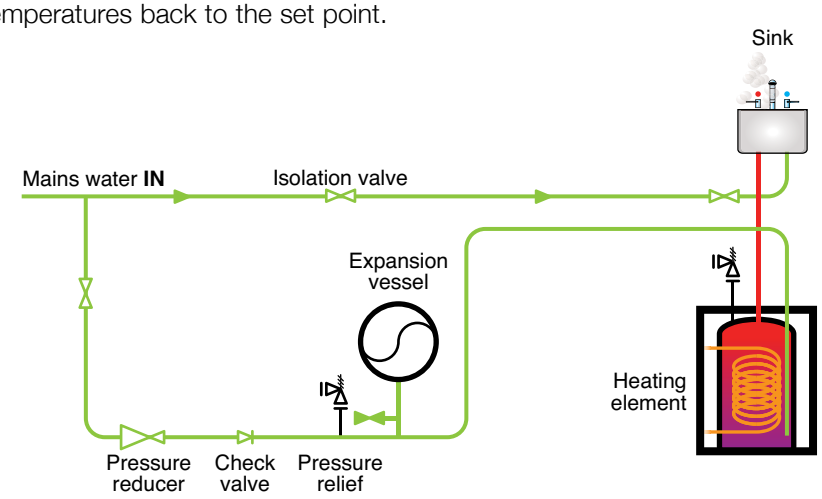


Figure 2.2 Low storage volume POU water heater

2.12 Combination water heaters store a volume of cold water (ranging from 10–200 litres) above the hot water storage unit (ranging from 15–150 litres). In these units (see Figure 2.3) the cold water header tank feeds the hot water storage vessel as hot water is drawn from the system on demand. The cold water header tank is topped up directly from the cold water supply, usually via a float-operated valve. The combination water heater is usually fitted with an expansion pipe so that any expanding hot water returns into the cold water header tank. Expansion may also occur by the cold feed pipe.

2.13 The design of a combination water heater may allow hot water to enter the cold water space. The Water Supply (Water Fittings) Regulations 1999,[15] the Scottish Water Byelaws 2004,[16] and BS 3198 *Specification for copper hot water storage combination units for domestic purposes*[17] recognise this and permit a maximum cold water storage temperature of 25 °C where it is serving other domestic outlets or 38 °C when serving the hot water vessel only. Careful consideration should be given to managing the risks from these types of systems and this should be reflected in the risk assessment. The thermostat should be set to as close to 60 °C as is practicable without exceeding it and hot water at the outlets should be at a minimum of 50 °C; correct setting of the thermostat and regular water usage is necessary to keep the temperature increase in the cold water to a minimum. Where this is not possible, eg during periods of low usage such as overnight or at weekends, fitting a timer which switches off the immersion heater may prove effective. The timer should be set to switch the immersion heater on again in time to ensure the water is heated sufficiently to achieve microbial control before use.

2.14 Electrical immersion heaters usually heat combination heaters but some units incorporate internal coils for primary boiler heating circuits.

2.15 In some combination units, the header tank is split into two sections: one feeding the water heater below and the other supplying cold water to the closed heating system. Possible cross-contamination and poor temperatures should be considered as part of the risk assessment.

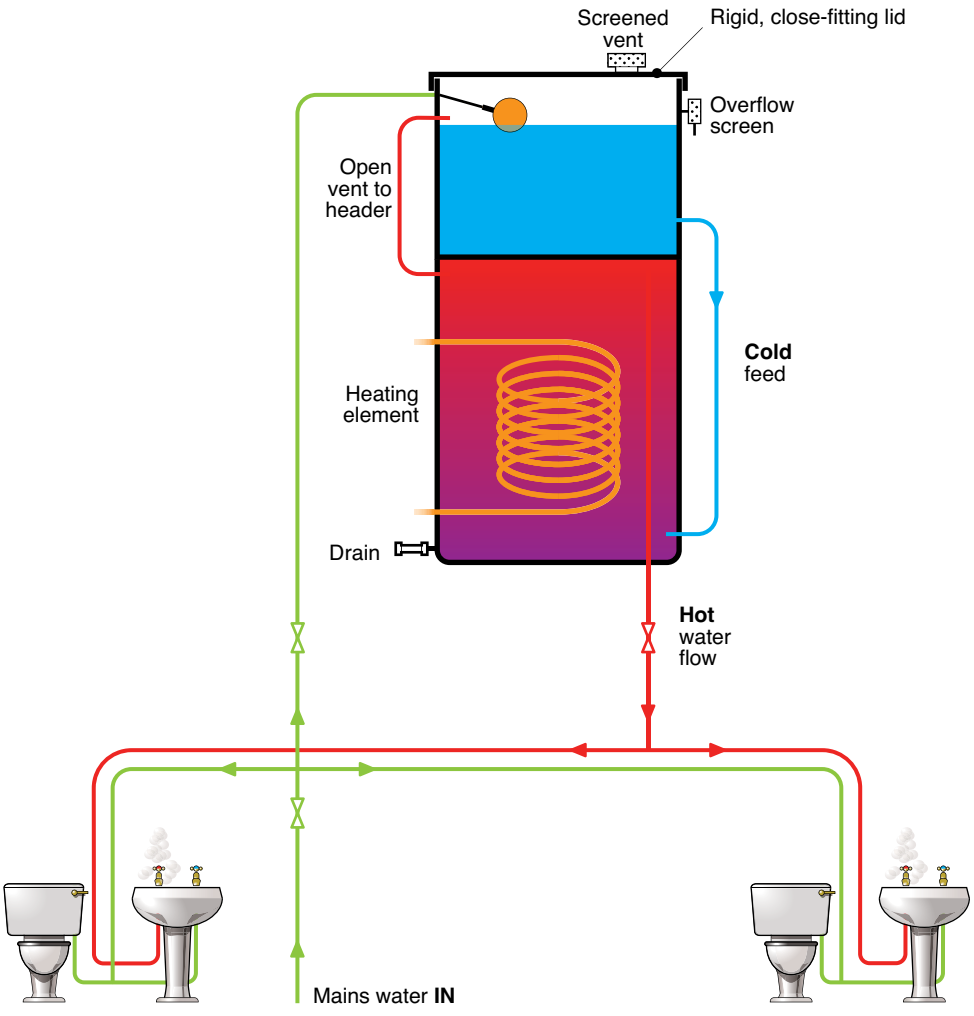


Figure 2.3 Combination water heater

Gravity-fed water systems

Gravity system without recirculation

2.16 Gravity systems without recirculation (Figure 2.4) are generally installed in domestic dwellings and small buildings. Cold water enters the building from a rising main and is stored in a cold water tank. The cold water tank provides backflow protection to the mains supply and a stable pressure and reserve in the system if the mains pressure fails or demand exceeds the capacity of the mains supply. Cold water from the tank is fed to the calorifier (hot water cylinder) where it is heated and drawn via pipes that branch to sinks, washbasins, baths, showers etc. In contrast to recirculating systems, the water only flows when it is being used and is usually allowed to become cool in the pipes after use.

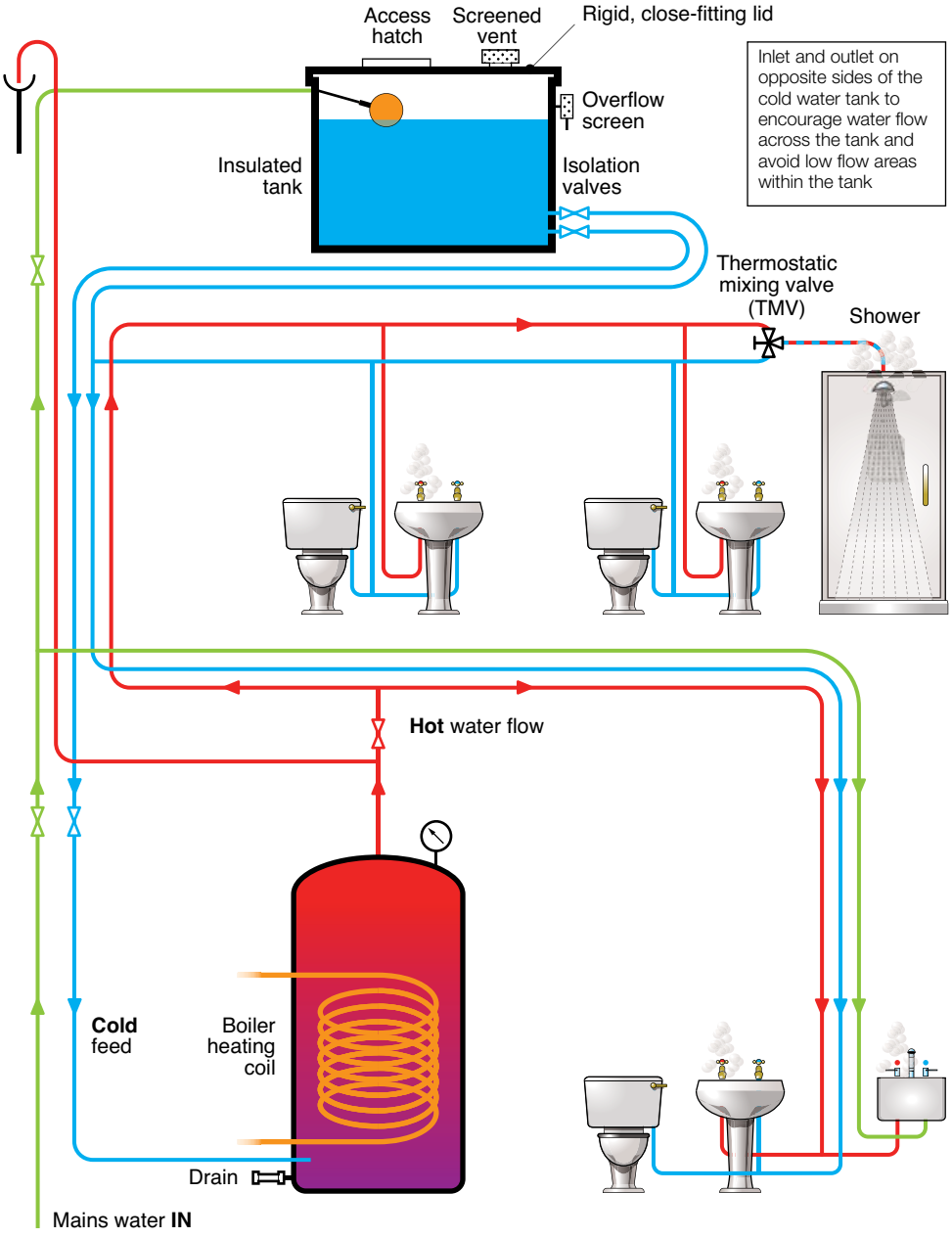


Figure 2.4 Gravity-fed hot and cold water system without recirculation

Gravity system with recirculation

2.17 Gravity systems with recirculation are typically installed in larger buildings such as commercial premises (Figure 2.5). Cold water enters the building from a rising main and is stored in a cold water storage tank or tanks. The tank provides backflow protection to the mains supply and a stable pressure in the system; it also provides a reserve if the mains pressure fails or demand exceeds the capacity of the mains supply. Cold water from this storage tank is fed to the calorifier.

2.18 There is a continuous circulation of hot water from the calorifier around the distribution circuit and back to the calorifier by means of one or more pumps, usually installed on the return to the calorifier, but it can be on the flow. This is to ensure that hot water is quickly available at any of the taps, independent of their distance from the calorifier and reduces the risk of localised temperature fluctuations. The circulation pump is sized to compensate for the heat losses from the distribution circuit so that the return temperature to the calorifier is not less than 50 °C.

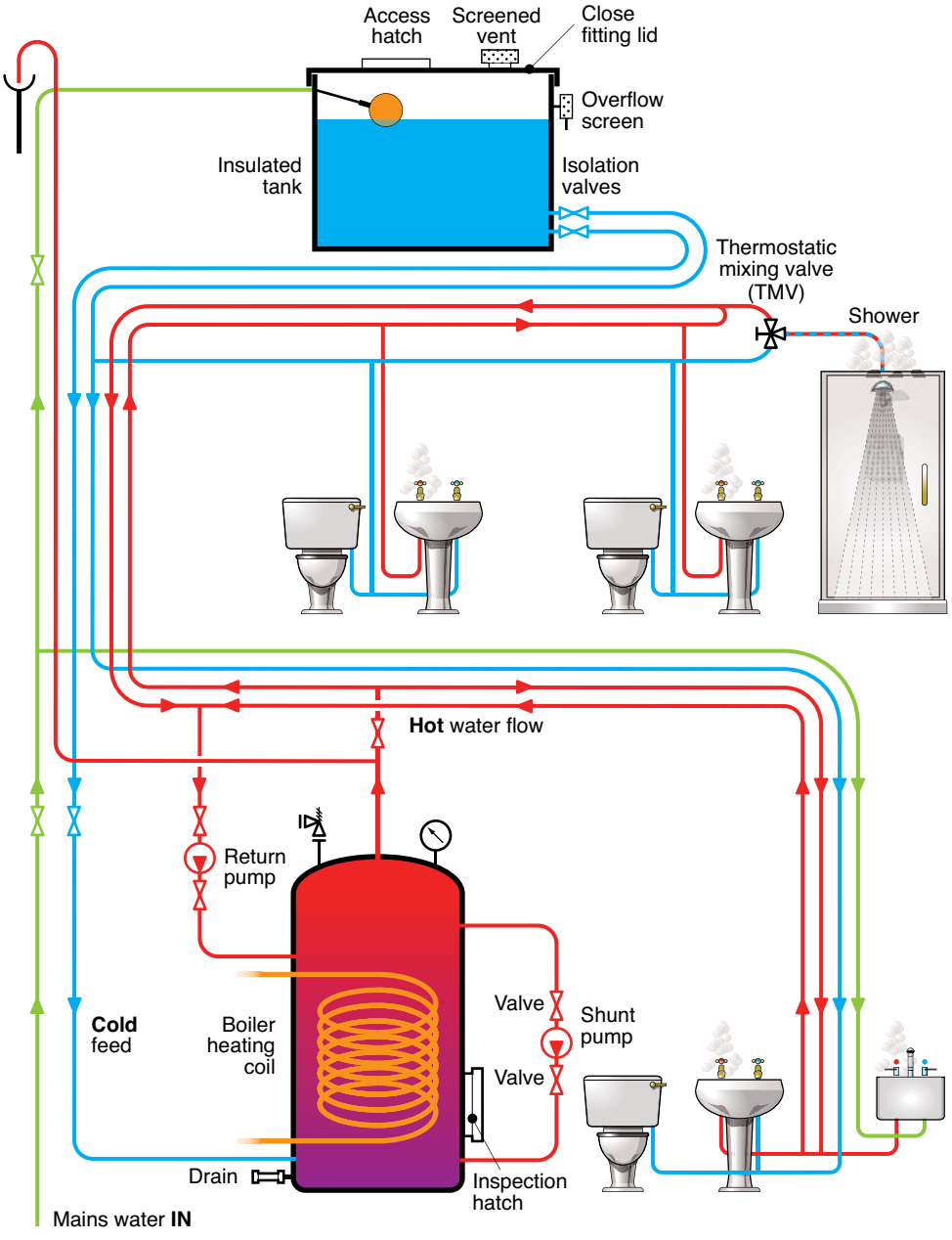


Figure 2.5 Gravity-fed system with recirculation

2.19 The pump has little effect on the pressure at the tap, which is determined by the relative height of the storage tank. The expansion of water as it is heated within the system is accommodated by a slight rise in the levels of the tank and vent pipe. The vent pipe should be directed into a separate tundish/drain which discharges at a safe and visible point and acts as a warning pipe. Discharge into the cold water storage tank is not advised as this can result in warm storage water temperatures and increase the risk of microbial growth. In the cold water system, water is fed by gravity directly from the cold water storage tank to the points of use without recirculation.

Pressurised systems

2.20 These systems are fed directly by a pressurised supply (sometimes via a break tank and booster set) connected to the calorifier, water heater or heat exchanger (Figure 2.6). In these systems, water expands when heated, requiring an expansion vessel, safety temperature and pressure relief valve (in a pressurised hot water system there is no open vent to a high level). Hot water distribution can be a recirculating or non-recirculating system.

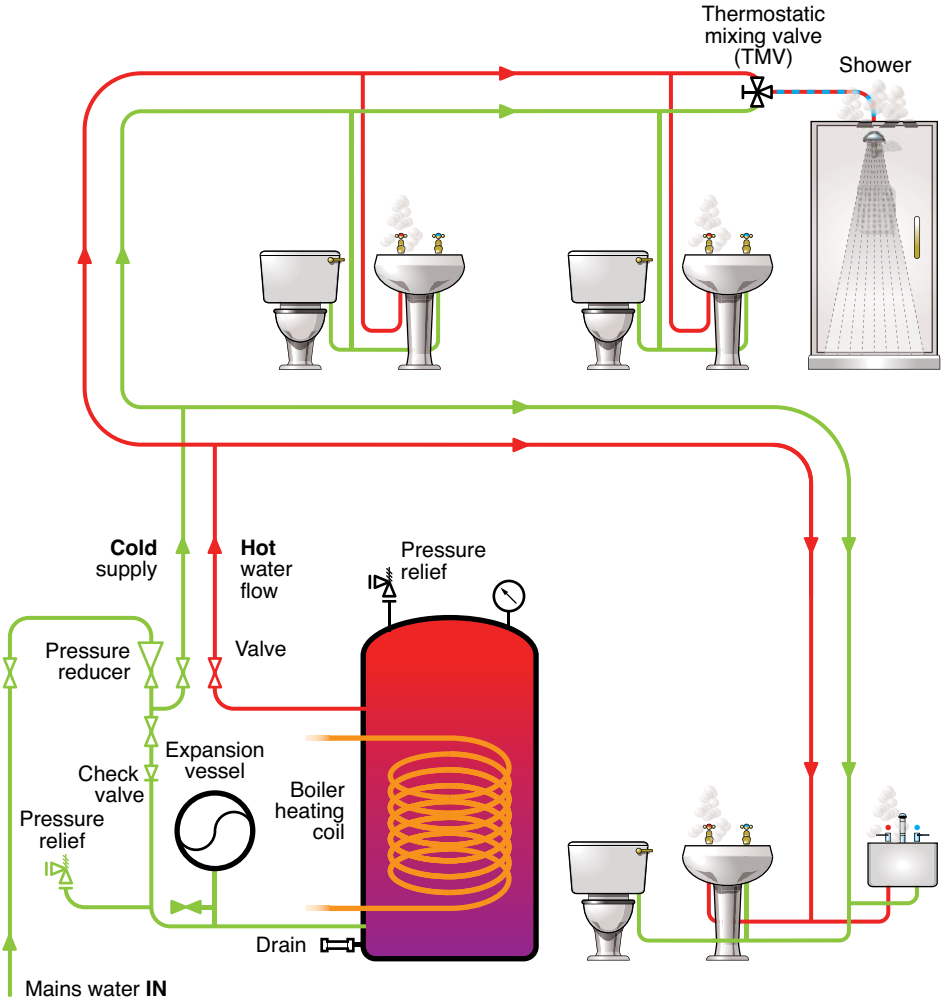


Figure 2.6 Pressurised mains-fed system with non-recirculating hot water distribution

2.21 Larger systems or those that require higher pressures to reach the top of the building often include break tanks and booster pumps, in place of direct mains water, that subsequently feed the water heater.

Hot water heaters: Calorifiers and hot water cylinders

2.22 There are varieties of hot water heaters available that comply with the Water Supply (Water Fitting) Regulations 1999 and for Scotland, the Scottish Water Byelaws 2004. The specification will depend on the size and usage of the system.

2.23 Hot water heaters are water storage vessels heated by:

- primary heating circuits of low pressure hot water or steam which is passed through a heat exchanger inside the vessel;
- gas or oil flame, directly;
- electricity, normally by means of an electric immersion heater within the vessel; or
- an external heat exchanger (sometimes returning to a holding 'buffer' vessel).

Direct-fired (gas) water heaters

2.24 Characteristic of this type of design is heating from below which avoids the reduced temperature areas found in indirect heating calorifiers; they also have lower storage volumes and even temperature distribution (Figure 2.7). This type of water heater has been shown to have a low incidence of colonisation by legionella.

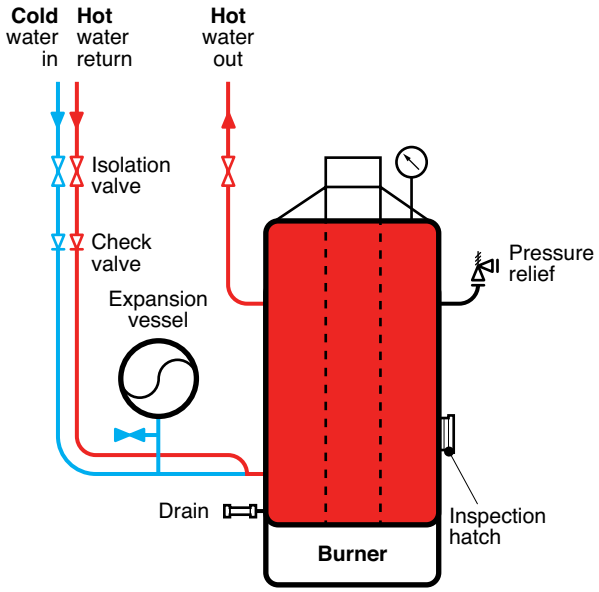


Figure 2.7 Direct-fired (gas) water heaters

Indirect heating calorifier vessel

2.25 In these vessels, the cold water typically enters at the base of the calorifier, creating an area below the coil where the initial blended water temperature may support microbial growth (Figure 2.8). Stratification, which may occur in large calorifiers, should be avoided and fitting a timer-controlled shunt pump to circulate the water from the top of the calorifier to the base during the period of least demand should be considered. The shunt pump should be activated when demand is at its lowest and the temperature within the calorifier is likely to be highest, this is often during the early hours of the morning. The boiler plant (or other calorifier heat source) should be heating while the shunt pump is active to ensure a temperature of at least 60 °C is achieved throughout the vessel for at least one continuous hour a day.

2.26 Ideally, the calorifier will have specific connections for the shunt pump return, as low down on the calorifier as possible. For existing calorifiers without suitable connections, the cold water feed may be used. Shunt pump operation should not be done or any alteration carried out before cleaning and descaling the calorifier, as operating the pump may disturb sludge or sediment. As an alternative to shunt pumps, some calorifiers are fitted with coils extending to the base to promote convective mixing during heating. Particulate matter can accumulate at the base of the calorifier so the design should incorporate an easily accessible drain valve.

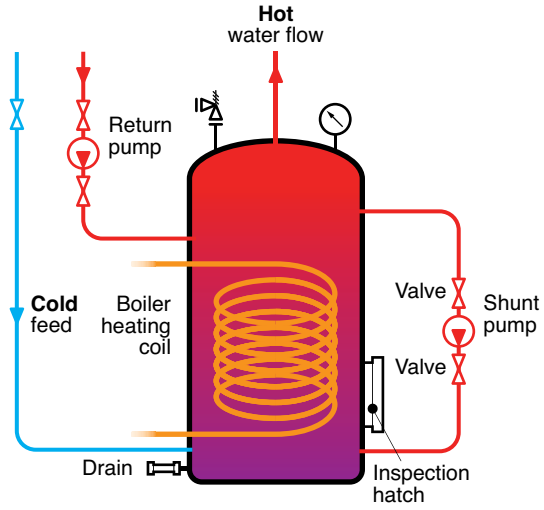


Figure 2.8 Indirect heating calorifier vessel

Calorifiers attached to solar heating systems

2.27 Hot water storage cylinders (calorifiers) attached to solar heating systems or other microgeneration systems (Figure 2.9) often have two heating coils one fed from the conventional heat source (boiler, heat exchanger etc) and one from the solar panels. The solar coil is usually positioned at the bottom of the cylinder and is used to pre-heat the 'dedicated solar volume' – the volume of water that can only be heated by the solar input. The boiler coil is fitted above the solar coil to raise the temperature of the water at the top of the vessel to 60 °C .

2.28 Calorifiers attached to solar heating systems should be managed, monitored and maintained to achieve the flow temperatures as for conventionally heated calorifiers throughout the year. As with conventional calorifiers, there will be temperature stratification providing favourable conditions for microbial growth including legionella at the base of the vessel. However, in times where there is little heat gain from the panels there may be a larger volume at a reduced temperature than in conventional systems. These systems should be designed so that the hot water temperature is not compromised during times when there is little heat gain from the solar panels. If the solar coil does not generate temperatures that bring about thermal inactivation of legionella bacteria; and the residence time for water in contact with the boiler coil at 60 °C is less than that required to effect thermal inactivation, a further level of control should be provided. For example, consideration should be given to programming the boiler coil to heat the entire contents of the solar hot water cylinder once daily, preferably during a period when there is little demand for hot water. A shunt pump may also be used to move hot water from the top of the calorifier to the base, however, it should not be used continuously except for about one hour daily and in all cases the pump should be controlled by a time clock. Where temperature control is not achieved, other measures such as using appropriate biocides should be considered.

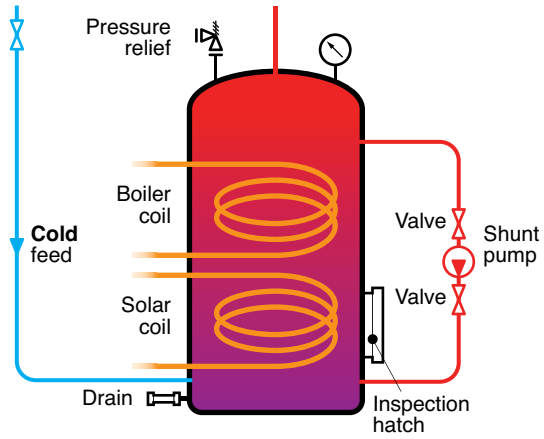


Figure 2.9 Solar-heated calorifiers

Water system design and commissioning

2.29 Plant or water systems should be designed and constructed to be safe and without risks to health when used at work. Such hazards maybe of a physical, chemical or microbial nature such as the risks associated with colonisation and growth of legionella bacteria within the water system. The type of system installed depends on the size and configuration of the building and the needs of the occupants but the water systems should be designed, managed and maintained to comply with:

- the Construction (Design and Management) Regulations 2007 (CDM);[18]
- the Building Regulations 2010 (and associated amendments);[19]
- for systems provided with water from the public supply – for England and Wales, The Water Supply (Water Fittings) Regulations 1999 and for Scotland, the Scottish Water Byelaws 2004;
- for systems provided with water from private sources – The Private Water Supplies Regulations 2009;[20] The Private Water Supplies (Wales) Regulations 2010;[21] or The Private Water Supplies (Scotland) Regulations 2006;[22]
- BS EN 806 (Parts 1–5) *Specifications for installations inside buildings conveying water for human consumption*;[23]
- BS 8558 *Guide to the design, installation, testing and maintenance of*
- *services supplying water for domestic use within buildings and their curtilages*;[24]
- CIBSE Guide G *Public Health and Plumbing Engineering*.[25]

2.30 Any subsequent changes within buildings may result in modifications to water systems that incorporate features from different design styles and materials. Any modifications should comply with the requirements and standards in paragraph 2.29 as if incorrectly designed, these can present a foreseeable risk of exposure to legionella.

Water system design considerations

2.31 The design of the water systems should identify and take into account the following factors:

- the source of the water must meet The Water Supply (Water Quality) Regulations 2000[26] or The Private Water Supplies Regulations 2009 and equivalent legislation for Wales and Scotland and must be wholesome at draw-off points;
- water components that may increase the risk of colonisation, eg blending valves, flexible hoses etc;
- the potential for stagnation leading to microbial growth where buildings are not to be fully occupied immediately or where systems are commissioned as occupation occurs, eg infrequently or intermittently used buildings.

2.32 A well-designed system should incorporate the following points:

- an adequate supply of hot and cold water available, particularly at periods of peak demand, while avoiding excessive storage. In buildings where stored water is not essential, consideration should be given to direct mains systems with local POU water heaters;

- all parts of the system including storage tanks, water heaters, pipework and components and associated equipment containing water are designed to avoid water stagnation by ensuring flow through all parts of the system. Low use outlets should be installed upstream of frequently used outlets to maintain frequent flow, eg an emergency shower installed upstream of a frequently used toilet. Consideration should be given to self-flushing fittings which are validated to show they are effective and do not introduce any additional risks;
- avoidance of temperatures in any water storage vessels, distributed water pipework and any associated equipment that support microbial growth, including legionella;
- single check valves are commonly used to prevent backflow of hot water to the cold feed. These valves should be rated for hot water use, as one side will be in contact with potentially hot water. Where applicable, an anti-gravity loop should be installed in the supply pipework as a failsafe mechanism should the single check valve fail;
- design measures to improve energy efficiency targets and reduce water usage should be assessed at the design stage to ensure the control of legionella is not compromised.

2.33 Materials used in building water systems must be compatible with the physical and chemical characteristics of water supplied to the building to reduce corrosion or prevent excessive scale formation of system pipework and components. Domestic water systems must not use materials that support microbial growth, such as those containing natural rubber, hemp, linseed oil-based jointing compounds and fibre washers. Similarly, any synthetic materials used should not adversely affect water quality by supporting microbial growth. Water fittings and components should be used that comply with the Water Regulations Advisory Scheme (WRAS) approval scheme[27] which lists products that have been tested and comply with BS 6920.

2.34 It is important that there should be ease of access to all parts of the system, components and associated equipment for management and maintenance purposes, eg tanks, calorifiers, thermostatic mixing valves (TMVs), blending valves, circulation pumps etc. Isolation valves should be included in all locations to facilitate maintenance and the implementation of control measures. The pipework and any components should be easy to inspect so that the thermal insulation and temperature monitoring can be checked.

2.35 In buildings where there are those with an increased susceptibility to infection or with processes requiring specific water characteristics, materials of an enhanced quality may be required. Healthcare buildings and care homes should specifically take note of alerts and advice from the Department of Health and Health Facilities Scotland. For example, healthcare premises are advised against the use of ethylene propylene diene monomer (EPDM) lined flexible hoses (tails) as these have been shown to be a risk of microbial colonisation. Such flexible connections should therefore only be used in healthcare premises where an installation has to move during operation or is subject to vibration.

Cold water systems

2.36 The general principles of design should be aimed at avoiding temperatures within the system that encourage the growth of microorganisms including legionella with the following taken into account:

- Cold water storage tanks should be installed in compliance with The Water Supply (Water Fittings) Regulations 1999 and Scottish Water Byelaws 2004. To prevent dirt and other potential nutrients getting in, they should have

secure, tightly fitting lids (Figure 2.10). Insect and vermin screens should be fitted to protect any pipework open to the atmosphere, such as the overflow pipe and vent. Where screens are fitted, they should be installed so they do not hold water. To avoid stagnation, where multiple cold water storage tanks are fitted, they should be connected to ensure each tank fills uniformly and water is drawn off through each of the tanks. Access ports should be provided on cold water tanks for inlet valve maintenance, inspection and cleaning.

- All pipe branches to individual outlets should be capable of delivering cold water at a temperature that is as close to the incoming water temperature within two minutes of running.
- The volume of stored cold water should be minimised and should not normally exceed that required for one day's water use although in healthcare premises, a nominal 12 hours total onsite storage capacity is recommended.
- There should be a regular water flow throughout the system and all outlets to avoid stagnation. In cold water storage tanks this can be facilitated by locating inlet and outlet pipes on opposing sides of the tank at different heights (see Figure 2.10).
- Thermal gain should be kept to a minimum by adequate lagging and separation of cold water services pipework and components from hot water services and heating systems; ensuring higher use outlets are installed at the end of each branch to improve flow; and considering, where appropriate, ventilation of void spaces and risers.
- Systems that encourage the movement of cold water in areas of the distribution system that are prone to stagnation and heat gain should be considered.
- All pipework and components carrying fluids other than water supplied by the water supplier and components should be clearly labelled.
- System components and associated equipment which require maintenance are easily accessible.
- Water fittings should only be chosen where they are compliant with The Water Supply (Water Fittings) Regulations 1999 and Scottish Water Byelaws 2004. In the case of non-metallic materials, this will also include conformity with BS 6920. The best method to ensure compliance is to select products from the Water Regulations Advisory Scheme Water Fittings and Materials Directory.

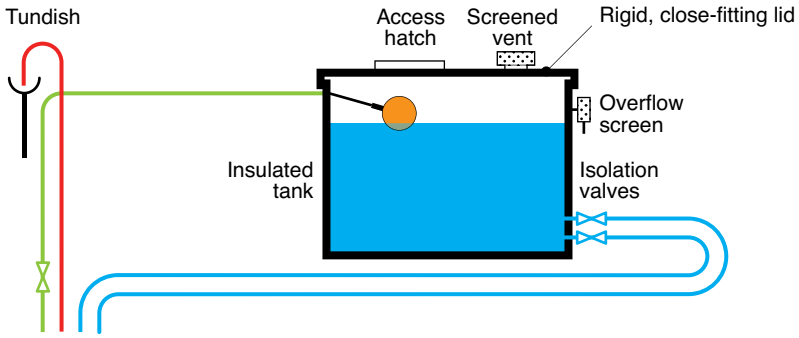


Figure 2.10 Acceptable tank design

Hot water systems

2.37 The general principles of design aim to avoid temperatures within the system that encourage the growth of legionella. Consideration should be given to the following:

- maintaining a supply temperature of at least 60 °C from the heat source and/or storage vessel (calorifier);

- the hot water circulating loop should be designed to give a return temperature to the calorifier from each loop of at least 50 °C (55 °C in healthcare premises);
- appropriate means for measuring temperature, eg thermometer/immersion pockets fitted on the flow and return to the calorifier and in the base of the calorifier;
- all pipe branches to individual outlets should be insulated and sufficiently short to enable the hot water at each outlet to reach 50 °C (55 °C in healthcare premises) within one minute of turning on the tap;
- the storage capacity and recovery rate of the calorifier should be selected to meet the normal daily fluctuations in hot water use without any significant drop in target supply temperature. The open vent pipe from the calorifier should be sufficiently raised above the water level and suitably sited in the water circuit to prevent hot water from being discharged in normal circumstances. The open vent should ideally discharge to atmosphere via a tundish providing a safe and visible warning of a fault condition;
- where more than one calorifier is used, they should be connected in parallel and deliver water at a temperature of at least 60 °C;
- to overcome localised failures in the distribution system, circulating pump design and the correct commissioning of balancing valves are key issues to ensure flow throughout all parts of the hot water system, particularly the hot water return legs. Balancing the hot water system flow and return circuits is critical to avoid long lengths of stagnant pipework that is likely to be at a lower temperature (see Figure 2.11);
- the calorifier drain valve should be located in an accessible position at the lowest point and as close as possible to the vessel, so that accumulated particulate matter can be safely drained;
- all types of water heaters, including storage calorifiers, should be designed and installed so that they are safe to use and maintain, and able to be inspected internally, where possible.

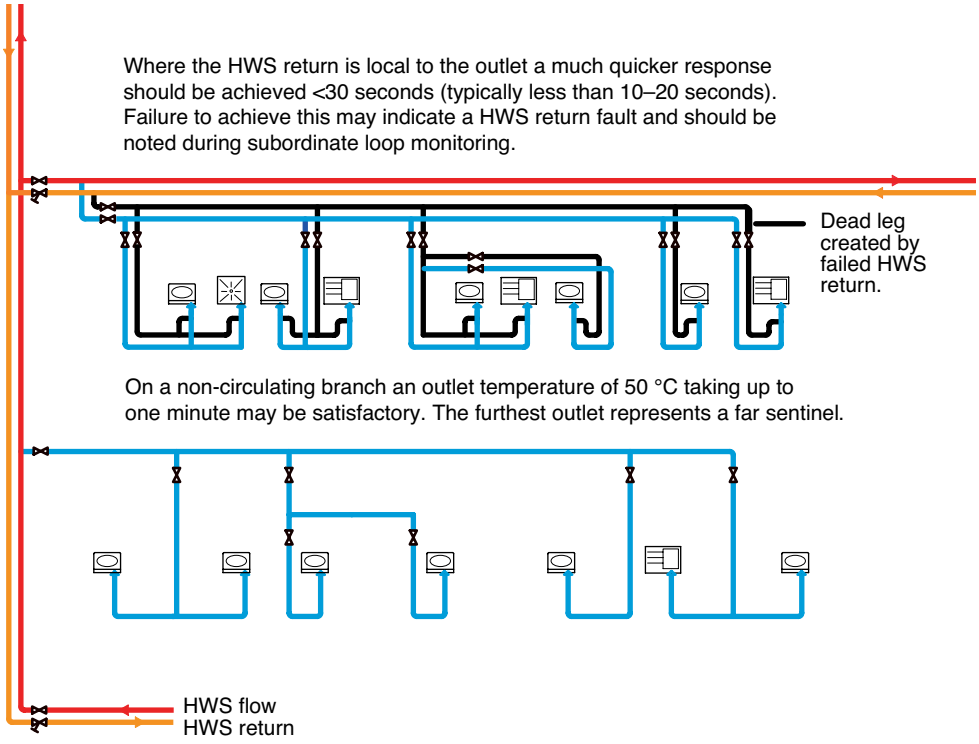


Figure 2.11 Hot water flow and return system showing a failure in the hot water system return

Expansion vessels

2.38 Expansion vessels in systems operating at steady temperature and pressure may have long periods without exchanging any significant amount of water and therefore can be at risk of aiding microbial growth.

2.39 To minimise the risk of microbial growth, expansion vessels should be installed:

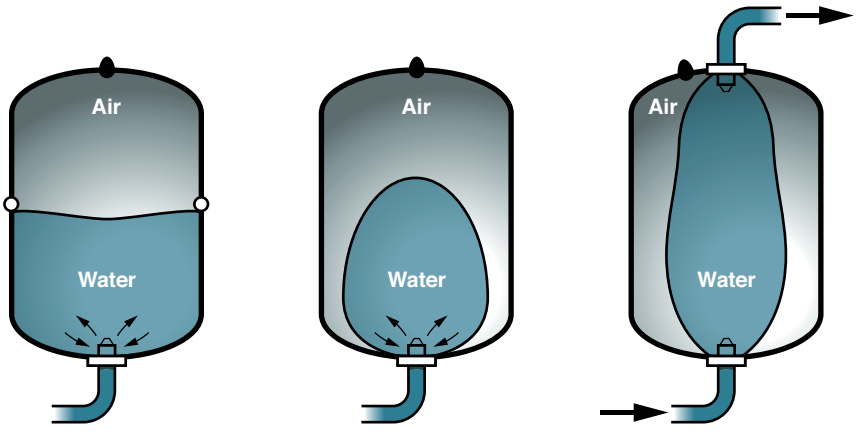
- in cool areas on cold flowing pipes;
- mounted as close to the incoming water supply as possible;
- mounted vertically on pipework to minimise any trapping of debris;
- with an isolation and drain valve to aid flushing and sampling;
- to minimise the volume retained within them;
- designed to stimulate flow within the vessel.

Info box 2.1: Hydraulic accumulators

Where water is boosted via pumps, hydraulic accumulators (pressurised vessels that buffer variations in pressure so acting like a shock absorber) are often used to reduce pressure surges from the pumps and may reduce the demand frequency. When correctly installed, hydraulic accumulators will partially fill and empty between each pump run and should exchange water at regular intervals, which will reduce the risk of stagnation.

In pressurised systems, a means of accommodating water expansion (caused by the water heating) is required. This is often achieved with the use of an expansion vessel. However, these may not fill and empty where the system pressure and temperature remains steady.

There are several types of vessel available including diaphragm or bladder type, with fixed and interchangeable (replaceable) bladders, as shown below. These internal bladders are often made of synthetic rubber such as EPDM and may support the growth of microorganisms including legionella, so check to see if these are approved against BS 6920. Vessels with a 'flow through' design should provide less opportunity for water to stagnate and become contaminated (as in the latter design).



Expansion vessels

Commissioning

2.40 Commissioning of a water system means the bringing of a new system into operation and applies to all component parts of a building water system including attached equipment. The aim of such commissioning is to check the system is performing to design specifications, that there are no leaks and that the flow of the hot water system is balanced. From a microbiological perspective, the period between filling the system and bringing it into normal use is potentially the most hazardous. A risk assessment should be performed before commissioning, to identify and take into account the potential for stagnation as this may lead to microbial growth where buildings are not to be fully occupied immediately or where systems are commissioned as occupation occurs, eg infrequently or intermittently used buildings.

2.41 Any new water system will require, as a minimum, flushing and disinfection before being brought into use, and larger more complex systems may also require disinfection. The building commissioning process should take into account the size and complexity of the water system. A new, correctly designed and installed water system should provide wholesome water at every outlet and where there are any problems, the design or installation defect should be identified and rectified.

2.42 Before commissioning, the nature of the incoming water supply must be determined. If it is a public water supply, the water supplier will be able to provide details of the testing carried out in the local water supply zone in which the building is situated. If there is any doubt about the condition of the underground supply pipe connecting the building to the public supply main, the water supplier should be contacted so that they can carry out an appropriate investigation and advise if any action is required by either them, or the premises owner. If the building has a private water supply, the local authority should be contacted to carry out a private water supply risk assessment, if this has not been done already. The building owner is responsible for complying with the regulatory requirements as notified by the water supplier or the local authority, as appropriate, irrespective of whether it is a public or private water supply, or a combination of both.

Small developments

2.43 Small developments (eg individual commercial or light industrial units, small offices, rented domestic houses) where water systems are simple, should be thoroughly flushed before use, but this should be done as close to occupation as possible to minimise the possibility of microbial growth.

Large developments

2.44 Before use, all water systems should be cleaned, flushed and disinfected as specified in BS EN 806 and BS 8558. This involves adding an effective disinfectant, such as chlorine or chlorine dioxide, drawing it throughout the system and leaving it for a specified time (the contact time) to take effect. It is important to monitor the levels of residual chlorine at selected outlets to ensure the minimum required concentration is maintained throughout the contact period. Where chlorine is used as the biocide, the pH of the water should be checked as the efficacy of chlorine can be adversely affected at pH values over 7.6.

2.45 If water turnover is anticipated to be low initially, it may be advisable not to commission certain parts of the system, such as cold water storage tanks, until the building is ready for occupation. This will ensure flushing during low use periods will draw directly on the mains supply rather than intermediate storage. The manufacturer of any component to be bypassed should be consulted for any requirements, such as whether it needs to be filled or can remain empty until it is brought into use.

2.46 In most cases, water systems will need to be pressure tested with water but once filled, wetted systems should not be drained down as this may not be fully effective and biofilm can develop in areas where there are residual pockets of water or high humidity. Alternatively, compressed air or an inert gas may be used, by trained and competent personnel, to pressure test water systems for leaks.

2.47 If there is a prolonged period between pressure testing using water and full occupation of the development, a procedure should be adopted to maintain water quality in the system. Weekly flushing should be implemented to reduce stagnation and the potential for microbial growth, keep temperatures below 20 °C and to ensure residual chemical treatment levels eg the low level of chlorine in the incoming water supply, is maintained throughout the system.

2.48 In large systems where a long period of time from filling to occupation cannot be avoided, continuous dosing with an appropriate concentration of biocide as soon as the system is wetted combined with regular flushing at all outlets can control the accumulation of biofilm more effectively than flushing and temperature control alone. While other disinfection methods could be used, maintaining 1–3 mg/l of chlorine dioxide is generally effective, however dosing at such high levels may reduce the life of the system pipework and components. This initial high-level disinfection should not be confused with ongoing dosing at lower levels in operational systems where the water is intended for human consumption. National conditions of use require that the combined concentration of chlorine dioxide, chlorite and chlorate in the water entering supply do not exceed 0.5 mg/l as chlorine dioxide.

2.49 Where biocide dosing is used, a regime of flushing and monitoring is required to ensure the disinfectant reaches all parts of the system and is maintained at an adequate concentration level, which should be recorded.

Buildings temporarily taken out of use (mothballing)

2.50 Where a building, part of a building or a water system is taken out of use (sometimes referred to as mothballing), it should be managed so that microbial growth, including legionella in the water, is appropriately controlled.

2.51 All mothballing procedures are a compromise between adequate control of microbial growth, the use of water for flushing (while avoiding waste) and degradation of the system by any disinfectant added. Where disinfectants are used, these should leave the system fit for its intended purpose.

2.52 In general, systems are normally left filled with water for mothballing and not drained down as moisture will remain within the system enabling biofilm to develop where there are pockets of water or high humidity. The water in the system also helps to avoid other problems associated with systems drying out, including failure of tank joints and corrosion in metal pipework. The systems should be recommissioned as though they were new (ie thoroughly flushed, cleaned and disinfected) before returned to use.

Operation and inspection of hot and cold water systems

2.53 The risks from legionella should be identified and managed and paragraphs 2.53-2.79 give guidance on the operation and maintenance of hot and cold water systems. Building water systems should be routinely checked where there is a risk from legionella to ensure that:

- there is a good turnover of water;
- adequate control parameters at outlets are achieved, ie temperature and/or biocide levels, and inspected for cleanliness.

Arrangements should be in place for the key control parameters to be monitored by those with the appropriate training and expertise. Alternatively, building management systems are increasingly used to provide an automated monitoring programme, allowing for early detection of failures in maintaining the control regime.

2.54 All inspections and measurements should be recorded with the following details:

- the name of the person undertaking the survey, verified or authenticated by a signature or other appropriate means, such as electronic verification;
- the date on which it was made;
- sufficient details of the sample location so that a repeat sample can be taken at the same location, if necessary.

Supply water

2.55 The water supply to the building will be from either a public or private supply, or a combination of both. In either case, it is a requirement that the supply is wholesome and suitable for all domestic purposes as set out in the Water Industry Act 1991[27] or in Scotland, the Water (Scotland) Act 1980.[28]

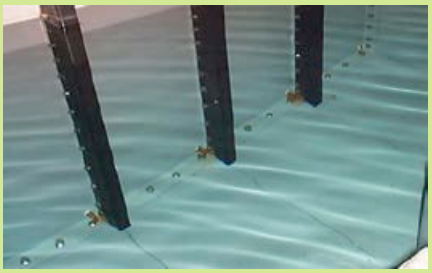
2.56 The temperature of the incoming water will depend on whether the supply originates from ground or surface water sources. The temperature of ground water in the UK is typically around 12 °C, whereas surface water temperatures can vary from 4 °C in a cold winter to 23 °C during a very hot summer. Accordingly, incoming water temperature should be well below 20 °C for most, if not all of the year. In an exceptionally hot summer, it may be necessary to review the risk assessment and take appropriate action to mitigate the risk to ensure regular water flow through tanks.

Cold water systems

2.57 An annual inspection of the cold water storage tank should be done to check its condition inside and outside, and the water within it. Figure 2.12 demonstrates the condition of cold water storage tanks and when action should be taken. The lid should be closely fitted and in good condition. The insect and vermin screen on the overflow and warning pipes and any vents should be intact and in good condition. The thermal insulation should be in good condition so that it protects from extremes of temperature. The water surface should be clean and free from any visible, significant contamination. The cold water storage tank should be cleaned,

disinfected and any faults rectified. If debris or traces of vermin are found, the inspection should be carried out more frequently.

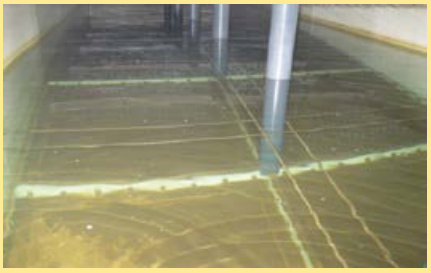
Figure 2.12 Cold water storage tank inspection



Clean tank but with slight corrosion on bolts

Light debris but corrosion to restraining bars

Moderate fouling suggesting cleaning should be conducted during the next 12 months



Slight to moderate level of debris, tank cleaning should be planned. Hollow tube supports should also no longer be used – see EFA/2013/004 at www.dhsspsni.gov.uk/efa-2013-004.pdf

Heavy debris and corrosion of internal parts that will require remedial works

Severe stagnation could indicate that the tank is oversized, or not being used

Unusually heavy scale formation requiring more than a regular clean and disinfection

Gel coat (glass reinforced plastic) failure resulting in local biological fouling (dark spots)

2.58 Whenever the building use pattern changes, a record of the total cold water consumption over a typical day should be established to confirm that there is reasonable flow through the tank and that water is not stagnating.

2.59 Monitoring for temperature or any disinfectant concentration in cold water should be carried out at sentinel draw-off points, selected to represent the overall building water system. In a simple cold water system, the sentinel points are typically the furthest tap (far sentinel) and the nearest (near sentinel) to the supply or storage tank. In deciding which outlets to identify as sentinels, the layout of the distribution system should be considered rather than the location of the outlet. More complex systems are likely to have several far sentinels, such as the extremity of each of several risers or down services. Any parts of the system not represented by far and near sentinels should be identified and additional outlets selected for monitoring that represent the excluded section.

2.60 Maintaining regular movement of cold water in sections prone to stagnation and guarding against excessive heat gain by using insulation on the cold water tanks and pipework is the most effective legionella control measure in CWDS. For most buildings, carrying out these measures is all that is required.

Hot water systems

2.61 Where standby units are provided, procedures should be in place to allow these units to be incorporated into routine use safely. Standby pumps should be used at least once each week to avoid water stagnation, and standby calorifiers need a suitable procedure to ensure the risk is controlled before they are brought back into service.

Non-circulating HWS

2.62 Monitoring temperature or any other control measure in hot water should be conducted at sentinel points, specifically selected to represent the condition of water in the system. In a non-circulating (single pipe) HWS, the sentinel points would typically be the taps furthest (far sentinel) and the nearest (near sentinel) to the hot water heater (calorifier). In branched systems, the outlets at the ends of significant spurs should be identified as additional far sentinel points. In either case, the layout of the distribution system should be considered rather than the location of the outlet, as they might not correspond.

Circulating HWS principal loops

2.63 In circulating systems the far sentinels are the return legs at a point towards the end of the recirculating loop. Where the system consists of several recirculating loops (demonstrated in Appendix 2.4), the end of each should be identified as far sentinel points for monthly monitoring. In either case, the layout of the distribution system should be considered rather than the location of the outlets, as they might not correspond.

Subordinate and tertiary HWS loops

2.64 Many larger circulating HWS have additional loops consisting of a smaller bore pipe branching from the flow leg of a principal loop to supply a group of outlets and connecting back to the return leg. In systems such as this, the smaller bore loops are the subordinate loops and the larger loops are the principal loops. Subordinate loops should be monitored ideally at a suitable return leg or from a representative outlet, in order to test all subordinate loops quarterly. However, large and complex HWS, eg in hospitals, often have localised loops that feed only one or two outlets and these can be identified as tertiary loops (demonstrated in Appendix 2.5).

Temperature profiling (representative outlet temperature monitoring)

2.65 Temperature profiling is a useful tool to verify a water distribution system is maintaining temperatures in all parts of the system in normal use, to control adequately any microbial growth, including legionellae. Rationalising the choice of where to monitor complex systems requires considering the layout to identify the principal loops. These are typically relatively few in number and will take hot water to and from parts of the building, eg toilets or other facilities, and will be one above another in a multi-storey building supplied by a vertical flow and return loop (often in a service void known as a riser and sometimes with access doors on each storey). In lower rise large buildings, the principal loops could run horizontally, typically above false ceilings in corridors.

2.66 As it may be impractical to monitor every part of a complex system, some form of rationalisation and prioritisation should be applied. As with cold water systems, any parts of the system not represented by sentinels should be identified, and additional outlets selected for less frequent monitoring to create a temperature profile of the whole system over a defined time.

2.67 HWS which supply outlets to high-risk users and incorporate tertiary loops, eg showers in healthcare premises, should be identified as areas for additional temperature monitoring.

Low storage volume heaters

2.68 Low storage volume heaters (ie no greater than 15 litres) such as instantaneous units and POU heaters, may be generally regarded as lower risk.

Info box 2.2: Low-risk systems

An example of a low-risk situation:

- in a small building without people especially ‘at risk’ from legionella bacteria;
- where daily water usage is inevitable and sufficient to turn over the entire system;
- where cold water comes directly from a wholesome mains supply (no stored water tanks);
- where hot water is fed from instantaneous heaters or low storage volume water heaters (supplying outlets at 50 °C);
- where the only outlets are toilets and hand washbasins (no showers).

2.69 Low storage volume heaters serving hot water outlets should be able to achieve a peak temperature of 50–60 °C and where the thermostat is set at these temperatures for this purpose, staff and other users should be informed not to adjust the heater. A unit which is not capable of achieving this, eg a preset thermostat, should only be used where there is a very high turnover or an alternative control measure is in place.

2.70 Low storage volume heaters, which includes electric showers, often have spray nozzle outlets and these should be inspected, cleaned and descaled as part of the showerhead and hose cleaning regime.

2.71 If these units are not regularly used or set to supply warm water, the risk from legionella is likely to increase dramatically and may increase further, where the units are supplied from a cold water storage tank. The risk assessment should take into account the usage of the units, the susceptibility of those using the units and include a suitable monitoring regime where the risk is considered significant.

Maintenance

Water softening

2.72 Light scale formation on the inner surfaces of pipes can be protective against the leaching of metals such as lead or copper, but heavier deposits are likely in hard water areas. These deposits increase the surface area and therefore the potential for microbial colonisation (biofilm formation) and can provide protection from the effects of biocides. In hard water areas, softening of the cold water supply to the hot water distribution system should be considered. This is to reduce the risk of scale being deposited at the base of the calorifier and heating coils, especially at temperatures greater than 60 °C, and the potential for scale build-up within the system pipework and components (eg TMVs) which may significantly reduce flow and adversely affect the efficiency of the system.

2.73 System materials need to be of a type that are resistant to corrosion (eg copper, stainless steel) as very soft water, natural or artificially softened, may lead to increased corrosion of the system pipework and materials. Where water softening systems are used, these should be fitted before any biocide treatment application. Suitable sample points should be fitted before and after the softener to allow for the operational testing of hardness and microbiological sampling if contamination is suspected.

Thermostatic mixing valves

2.74 TMVs are valves that use a temperature sensitive element and blend hot and cold water to produce water at a temperature that safeguards against the risk of scalding, typically between 38 °C and 46 °C depending on outlet use. The blended water downstream of TMVs may provide an environment in which legionella can multiply, thus increasing the risks of exposure.

2.75 The use and fitting of TMVs should be informed by a comparative assessment of scalding risk versus the risk of infection from legionella. Where a risk assessment identifies the risk of scalding is insignificant, TMVs are not required. The most serious risk of scalding is where there is whole body immersion, such as with baths and showers, particularly for the very young and elderly, and TMVs should be fitted at these outlets. Where a risk assessment identifies a significant scalding risk is present, eg where there are very young, very elderly, infirm or significantly mentally or physically disabled people or those with sensory loss, fitting TMVs at appropriate outlets, such as hand washbasins and sinks, is required.

2.76 Where TMVs are fitted, consider the following factors:

- where practicable, TMVs should be incorporated directly in the tap fitting, and mixing at the point of outlet is preferable;
- where TMVs are fitted with low flow rate spray taps on hand washbasins, the risk is increased;
- TMV valves should be as close to the POU as possible to minimise the storage of blended water;
- where a single TMV serves multiple tap outlets, the risk can be increased;
- where TMVs are designed to supply both cold and blended water, an additional separate cold tap is rarely needed and may become a low use outlet.

Info box 2.3: Thermostatic mixing valves

Where a scalding risk is assessed as low (eg where healthy users immerse their whole body), type 2 TMVs that can be overridden by the users are required by building regulations. Where a scalding risk is considered significant (eg where users are very young, very elderly, infirm or significantly mentally or physically disabled or those with sensory loss) then type 3 TMVs that are pre-set and fail-safe should be provided (but are required at healthcare premises) and should be checked regularly to ensure they are fail-safe if the cold water supply pressure is interrupted.

Regular flushing of showers and taps

2.77 Consideration should be given to removing infrequently used showers and taps and where removed, the redundant supply pipework should be cut back, as close as possible, to a common supply, eg to the recirculating pipework or the pipework supplying a more frequently used upstream fitting.

2.78 The risk from legionella growing in peripheral parts of the domestic water system, such as dead legs off the recirculating hot water system, may be minimised by regular use of these outlets. When outlets are not in regular use, weekly flushing of these devices for several minutes can significantly reduce the risk of legionella proliferation in the system. Once started, this procedure has to be sustained and logged, as lapses can result in a critical increase in legionella at the outlet. Where there are high-risk populations, eg healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment.

Checklist for hot and cold water systems

2.79 The frequency of inspecting and monitoring the hot and cold water systems will depend on their complexity and the susceptibility of those likely to use the water. The risk assessment should define the frequency of inspection and monitoring depending on the type of use and user and particularly where there are adjustments made by the assessor to take account of local needs. Table 2.1 provides a checklist for hot and cold water systems with an indication of the frequency of inspection and monitoring.

Table 2.1: Checklist for hot and cold water systems

Service	Action to take	Frequency
Calorifiers	Inspect calorifier internally by removing the inspection hatch or using a boroscope and clean by draining the vessel. The frequency of inspection and cleaning should be subject to the findings and increased or decreased based on conditions recorded	Annually, or as indicated by the rate of fouling
	Where there is no inspection hatch, purge any debris in the base of the calorifier to a suitable drain Collect the initial flush from the base of hot water heaters to inspect clarity, quantity of debris, and temperature	Annually, but may be increased as indicated by the risk assessment or result of inspection findings
	Check calorifier flow temperatures (thermostat settings should modulate as close to 60 °C as practicable without going below 60 °C) Check calorifier return temperatures (not below 50 °C, in healthcare premises not below 55 °C)	Monthly
Hot water services	For non-circulating systems: take temperatures at sentinel points (nearest outlet, furthest outlet and long branches to outlets) to confirm they are at a minimum of 50 °C within one minute (55 °C in healthcare premises)	Monthly
	For circulating systems: take temperatures at return legs of principal loops (sentinel points) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises). Temperature measurements may be taken on the surface of metallic pipework	Monthly
	For circulating systems: take temperatures at return legs of subordinate loops, temperature measurements can be taken on the surface of pipes, but where this is not practicable, the temperature of water from the last outlet on each loop may be measured and this should be greater than 50 °C within one minute of running (55 °C in healthcare premises). If the temperature rise is slow, it should be confirmed that the outlet is on a long leg and not that the flow and return has failed in that local area	Quarterly (ideally on a rolling monthly rota)
	All HWS systems: take temperatures at a representative selection of other points (intermediate outlets of single pipe systems and tertiary loops in circulating systems) to confirm they are at a minimum of 50 °C (55 °C in healthcare premises) to create a temperature profile of the whole system over a defined time period	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control
POU water heaters (no greater than 15 litres)	Check water temperatures to confirm the heater operates at 50–60 °C (55 °C in healthcare premises) or check the installation has a high turnover	Monthly–six monthly, or as indicated by the risk assessment

Combination water heaters	Inspect the integral cold water header tanks as part of the cold water storage tank inspection regime, clean and disinfect as necessary. If evidence shows that the unit regularly overflows hot water into the integral cold water header tank, instigate a temperature monitoring regime to determine the frequency and take precautionary measures as determined by the findings of this monitoring regime	Annually
	Check water temperatures at an outlet to confirm the heater operates at 50–60 °C	Monthly
Cold water tanks	Inspect cold water storage tanks and carry out remedial work where necessary	Annually
	Check the tank water temperature remote from the ball valve and the incoming mains temperature. Record the maximum temperatures of the stored and supply water recorded by fixed maximum/minimum thermometers where fitted	Annually (Summer) or as indicated by the temperature profiling
Cold water services	Check temperatures at sentinel taps (typically those nearest to and furthest from the cold tank, but may also include other key locations on long branches to zones or floor levels). These outlets should be below 20 °C within two minutes of running the cold tap. To identify any local heat gain, which might not be apparent after one minute, observe the thermometer reading during flushing	Monthly
	Take temperatures at a representative selection of other points to confirm they are below 20 °C to create a temperature profile of the whole system over a defined time period. Peak temperatures or any temperatures that are slow to fall should be an indicator of a localised problem	Representative selection of other sentinel outlets considered on a rotational basis to ensure the whole system is reaching satisfactory temperatures for legionella control
	Check thermal insulation to ensure it is intact and consider weatherproofing where components are exposed to the outdoor environment	Annually
Showers and spray taps	Dismantle, clean and descale removable parts, heads, inserts and hoses where fitted	Quarterly or as indicated by the rate of fouling or other risk factors, eg areas with high risk patients
POU filters	Record the service start date and lifespan or end date and replace filters as recommended by the manufacturer (0.2 µm membrane POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations)	According to manufacturer's guidelines
Base exchange softeners	Visually check the salt levels and top up salt, if required. Undertake a hardness check to confirm operation of the softener	Weekly, but depends on the size of the vessel and the rate of salt consumption
	Service and disinfect	Annually, or according to manufacturer's guidelines

Multiple use filters	Backwash and regenerate as specified by the manufacturer	According to manufacturer's guidelines
Infrequently used outlets	Consideration should be given to removing infrequently used showers, taps and any associated equipment that uses water. If removed, any redundant supply pipework should be cut back as far as possible to a common supply (eg to the recirculating pipework or the pipework supplying a more frequently used upstream fitting) but preferably by removing the feeding 'T' Infrequently used equipment within a water system (ie not used for a period equal to or greater than seven days) should be included on the flushing regime Flush the outlets until the temperature at the outlet stabilises and is comparable to supply water and purge to drain Regularly use the outlets to minimise the risk from microbial growth in the peripheral parts of the water system, sustain and log this procedure once started For high risk populations, eg healthcare and care homes, more frequent flushing may be required as indicated by the risk assessment	Weekly, or as indicated by the risk assessment
TMVs	Risk assess whether the TMV fitting is required, and if not, remove Where needed, inspect, clean, descale and disinfect any strainers or filters associated with TMVs To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent persons in accordance with the manufacturer's instructions. There is further information in paragraphs 2.152– 2.168	Annually or on a frequency defined by the risk assessment, taking account of any manufacturer's recommendations
Expansion vessels	Where practical, flush through and purge to drain. Bladders should be changed according to the manufacturer's guidelines or as indicated by the risk assessment	Monthly–six monthly, as indicated by the risk assessment

Water treatment and control programmes for hot and cold water systems

2.80 Dutyholders are required to prevent or control the risk from exposure to legionella. Precautions include physical methods such as regular movement of hot and cold water in distribution pipework, regular flushing of outlets to ensure water cannot stagnate in the hot and cold water systems and POU filters. For control measures to be effective, it is essential to keep the whole system clean, as biofilms or inorganic matter such as scale can reduce the efficacy of any type of control measure significantly.

2.81 Although temperature is the traditional and most common approach to control, sometimes there can be technical difficulties in maintaining the required temperatures, particularly in older buildings with complex water systems. Control methods including water treatment techniques, when used correctly and if properly managed, can be effective in the control of legionella in hot and cold water systems. However, the selection of a suitable system for the control of legionella is complex and depends on a number of parameters, including system design, age, size, and water chemistry, all of which can contribute to the complexity and difficulty of achieving adequate control. There is no single water treatment control regime that is effective in every case, and each control method has both benefits and limitations.

Temperature regime

2.82 Where temperature is used, hot water should be stored at a minimum of 60 °C and distributed so it reaches a minimum temperature of 50 °C (55 °C in healthcare premises) within one minute at outlets. Where circulation is not possible, trace heating is sometimes used to maintain the water temperature in the spur so that it delivers at 50 °C within one minute of running, but only provided it is shown to be effective.

2.83 Much higher temperatures should be avoided because of the risk of scalding. At 50 °C, the risk of scalding is small for most people but the risk increases rapidly with higher temperatures and for longer exposure times. However, the risk, particularly to young children, the elderly or disabled and to those with sensory loss will be greater. Where a significant scalding risk is identified, using TMVs on baths and showers should be considered to reduce temperature and should be placed as close to the POU as possible. To ensure the correct function of TMVs, there needs to be a minimum temperature differential between the hot and cold water supplies and the mixed water temperature. Users should refer to the manufacturer's operating instructions to ensure these devices are working safely and correctly.

2.84 When using temperature as a control regime, as well as routine monitoring and inspection, the checks in Table 2.1 should also be carried out and remedial action taken if necessary.

Biocide treatments

2.85 Where biocides are used to treat water systems, like the temperature regime they require meticulous control and monitoring programmes in place if they are to be equally

effective. However, in healthcare premises, careful consideration should be given to any equipment that is connected to the water system that may be affected by the application of a biocide, eg renal and haemodialysis units. Due to the extremely sensitive nature of renal water plants, for healthcare premises reference should be made to *Water systems: Health Technical Memorandum 04-01* Part B (for England and Wales), or to *Scottish Health Technical Memorandum 04-01* (for Scotland).

2.86 If hot water is not needed for other reasons, eg for kitchens or laundries, and there is no requirement to store hot water at 60 °C (or distribute at 50 °C), then hot water temperatures can be reduced. As reducing hot water temperatures will leave the system vulnerable if there are any lapses in the biocide control regime, the control system should be checked at least weekly to ensure it is operating effectively and continuing to control legionella.

2.87 Any reduction of hot water temperatures should be carried out in stages and temperatures only reduced when efficacy against legionella is confirmed, with monitoring for legionella and biocide levels in the water system carried out at each stage.

2.88 However, reducing calorifier temperatures to below 60 °C, and using a biocide as the primary control measure, is currently not permitted in healthcare premises where there are patients who are at an increased risk of contracting legionnaires' disease. Healthcare premises should refer to *Water systems: Health Technical Memorandum 04-01* Part B (for England and Wales), or to *Scottish Health Technical Memorandum 04-01* (for Scotland).

2.89 It is essential that these water treatment programmes are monitored to demonstrate that the programmes are working within the established guidelines and are effective in controlling legionella bacteria in water systems. The frequency of monitoring and test procedures will vary according to the method selected.

2.90 Biocides used to treat water systems where water is used for domestic purposes may be contrary to water legislation and may make the water unwholesome. These systems should be selected with care and must comply with the requirements of The Water Supply (Water Quality) Regulations 2000, for Wales, the Water Supply (Water Quality) (Wales) Regulations 2010[29] and for Scotland, The Water Supply (Water Quality) (Scotland) Regulations 2001[30] and 2010.[31] Additionally, the installation of any biocidal system must comply with the requirements of The Water Supply (Water Fittings) Regulations 1999 and for Scotland, the Scottish Water Byelaws 2004.

Chlorine dioxide

2.91 Chlorine dioxide is an oxidising biocide/disinfectant that when used correctly, has been shown to be effective at controlling both legionella and biofilm growth in hot and cold water systems. In the appropriate application, it may be used to aid legionella control where maintaining a conventional temperature regime is difficult or where the removal of all dead legs and little used outlets is impractical. Chlorine dioxide is usually produced on site from a chlorite-based precursor using a chlorine dioxide generator or dosing system by reaction with one or more other chemical precursors or by a catalytic oxidation process.

2.92 Use of chlorine dioxide as a legionella control strategy is subject to BS EN 12671[32] and national conditions of use require that the combined concentration of chlorine dioxide, chlorite and chlorate in the drinking water does not exceed 0.5 mg/l as chlorine dioxide.

2.93 Establishing and maintaining a chlorine dioxide residual (as total oxidant) of 0.1– 0.5 mg/l at an outlet is usually sufficient to control legionella in the preceding

pipework, although in a heavily colonised system higher residuals may be necessary. The dosage rate of chlorine dioxide required to achieve this residual will be dependent on the length and complexity of the water distribution system, the water turnover rate and the extent to which the water system is contaminated with an established biofilm. In a relatively clean water system with a high water turnover, a dosage rate of up to 0.5 mg/l is usually sufficient to achieve the desired residual at the outlets. While chlorine dioxide is not affected by the pH or hardness of the water, it is sometimes difficult to monitor chlorine dioxide samples in domestic HWS due to its increased volatility causing the chlorine dioxide reserve to be lost when taking a water sample. In a system containing infrequently used outlets, a programme of regularly flushing the outlets should be maintained until a chlorine dioxide residual is detected.

2.94 Chlorine dioxide is a water soluble gas and can penetrate and control established biofilms. If a system is heavily colonised then it will have a significant chlorine dioxide demand and it may be some considerable time before a stable chlorine dioxide residual is established at the extremities of the system. During the clean-up phase, it may be necessary to maintain a higher dosage rate than 0.5 mg/l and outlets normally used for drinking purposes will require additional controls. In such cases, an offline super-disinfection with an elevated level of chlorine dioxide (20– 50 mg/l) may be necessary, but this should only be undertaken following a detailed risk assessment and the system should be flushed through thoroughly after cleaning.

2.95 Where some of the water is used for drinking purposes, but the desired microbial control cannot be achieved without the combined total oxidant levels at the outlets exceeding 0.5 mg/l then the relevant outlets should be clearly labelled as unsuitable for drinking. Alternatively, the oxidants can be removed from the water at the POU by means of a suitable activated carbon-based drinking water filter. However, where such outlets are in neonatal or augmented care units, these should be clearly labelled as unsuitable for ingestion, including making up neonates' feeds.

2.96 When introducing chlorine dioxide, the dosing system should typically be installed, for a combined hot and cold water system, on the inlet to the tank supplying water to the remainder of the system. For a hot water system, this would be on the cold water inlet to the calorifier. The dosage of chlorine dioxide should be proportional to the water flow and the dosing system should incorporate safeguards to prevent inadvertent overdosing. In the case of hot water distribution systems with calorifiers/water heaters operating conventionally (ie at 60 °C), there will be a tendency for chlorine dioxide to be lost by 'gassing off', especially if the retention time in a vented calorifier/water heater is long. In most cases, however, some level of total oxidant should be found in the hot water, although at concentrations far less than the 0.5 mg/l injected.

2.97 It may be difficult to establish the desired chlorine dioxide residual throughout all areas of a large complex water distribution system from a single dosing point, particularly if it is colonised by an established biofilm. Installing satellite-dosing systems may be needed to boost the residual at key areas, such as interposing tanks or upstream of calorifiers.

2.98 Excessive levels of chlorine dioxide should be avoided since they can encourage the corrosion of copper and steel pipework and high levels of chlorine dioxide can degrade certain types of polyethylene pipework particularly at elevated temperatures. Users of chlorine dioxide systems will need to consider these issues and when choosing a system these points should be checked to ensure that the supplier addresses them satisfactorily.

2.99 The chlorine dioxide dosing system should be inspected at least weekly to confirm that it is operating correctly and that there is no evidence of chemical

leakage. The treated water should be tested regularly at a suitable sample point downstream of the injection point to verify that there is at least 80% reaction efficiency, thus minimising the contribution of chlorite to the biocide dose; and at the sentinel outlets to verify the chlorine dioxide and total oxidant/chlorite residuals are as required. The dosing system should be serviced and maintained in accordance with the manufacturer's recommendations.

2.100 For most systems, the routine inspection and maintenance detailed in the bulleted list below is usually sufficient to ensure control, with any remedial action taken when necessary and recorded.

- weekly – check the system operation and chemical stocks in the reservoir;
- monthly – test the treated water for both chlorine dioxide and total oxidant/ chlorite at an outlet close to the point of injection to verify the dosage rate and conversion yield;
- monthly – measure the concentration of chlorine dioxide at the sentinel taps – the concentration should be at least 0.1 mg/l; and adjust the chlorine dioxide dosage to establish the required residual at the sentinel sample points;
- annually – test the chlorine dioxide and total oxidant/chlorite concentration at a representative selection of outlets throughout the distribution system – the concentration should be at least 0.1 mg/l chlorine dioxide.

Copper and silver ionisation

2.101 Ionisation is the term given to the electrolytic generation of copper and silver ions providing a continuous release of ions in water. These are generated by passing a low electrical current between two copper and silver electrodes; copper and silver alloy electrodes may also be used. When used correctly, copper and silver ionisation is shown to be effective at controlling legionella and can penetrate and control established biofilms.

2.102 The Water Supply (Water Quality) Regulations 2001 set a standard for copper of 2 mg/l, which must not be exceeded. However, there is currently no standard for silver used for domestic purposes.

Info box 2.4: Guideline levels for silver

At the time of publication, the European Union and WHO do not dictate any established standards for silver, as there is currently insufficient data for recommending a concentration limit. Equipment manufacturers generally recommend copper (0.2–0.8 mg/l) and silver (0.02–0.08 mg/l) ion concentrations to control legionella effectively.

WHO states 'there is no adequate data with which to derive a health based guideline value for silver in drinking water'. WHO also states that 'special situations exist where silver may be used to maintain the bacteriological quality of drinking water and higher levels of up to 0.1 mg/litre could be tolerated in such cases without risk to health'.

2.103 Where some of the outlets on the treated water system are used for domestic purposes, rigorous controls and regular water testing needs to be maintained to ensure that the copper level does not exceed 2.0 mg/l as Cu^{2+} and the silver level does not exceed 0.1 mg/l as Ag^{+} at these outlets.

2.104 Ionisation systems are typically fitted on the incoming mains supply before water storage treating both hot and cold water systems. These systems may also be installed in independent hot or cold water circuits as well as on a recirculating

pumped line treating a storage tank. If water softening systems are used, the ionisation system should be fitted after the softening system to avoid removal of some of the copper and silver ions by the water softening system resins. In hard water areas, a specific electrode evaluation and descaling procedure should be part of the programme as it is possible that the natural hardness will deposit on the electrodes and reduce ionisation efficiency.

2.105 Values of more than 0.2 mg/l copper and more than 0.02 mg/l silver are recommended at outlets to ensure effective control of legionella, and the ionisation system should be regularly checked to ensure it is capable of delivering enough copper and silver to maintain these concentration values at outlets while not exceeding the drinking water limits, if applicable.

2.106 Maintaining adequate silver ion concentrations in hard water systems can be difficult due to the build-up of scale on the silver electrodes potentially obstructing copper and silver ions release. Copper and silver ionisation systems that treat hard water systems should therefore be checked more regularly to ensure that the system is capable of delivering suitable ion levels throughout the system of more than 0.2 mg/l copper and more than 0.02 mg/l silver, measured at outlets. The ionisation process is pH sensitive and dosing levels may need increasing for pH levels greater than 7.6.

2.107 The copper and silver ionisation system should be regularly inspected and its electrodes cleaned as required to ensure that the system is delivering steady levels of more than 0.2 mg/l copper and more than 0.02 mg/l silver, measured at outlets, necessary to maintain control. Water samples should be taken regularly from the ionisation system and from the sentinel outlets and analysed by a UKAS-accredited laboratory to ensure enough copper and silver is produced by the system.

2.108 For most systems, routine inspection and maintenance is usually sufficient to ensure control and any remedial action should be taken when necessary and recorded:

- weekly – check rate and release of copper and silver ions in the water supply and install equipment capable of proportional dosing relative to flow;
- monthly – check copper and silver ion concentrations at sentinel outlets;
- annually – check the measurement of copper and silver ion concentrations at representative taps selected on a rotational basis once each year;
- check the condition and cleanliness of the electrodes and the pH of the water supply.

Chlorine

2.109 Chlorine is widely used to disinfect water supplies. Most mains water supplies will contain a low level chlorine residual in the range of 0.1–0.5 mg/l at the point where water enters a premises. This level of chlorine may not be sufficient to inhibit the growth of legionella within the water systems of a building and where necessary, supplementary dosing with the controlled addition of a further chlorine-based product may aid the control of legionella and biofilm.

2.110 Once diluted in the water supply the chlorine-based product dissociates to form hypochlorous acid and hypochlorite ions. The effectiveness of chlorine as a disinfectant is determined by the chlorine concentration, contact time, pH value, temperature, concentration of organic matter, and the number and types of microorganisms in the water.

2.111 WHO has set a health-based guideline maximum value of 5.0 mg/l for total chlorine as a residual disinfectant in drinking water. However, it is rarely used continuously in domestic water in buildings at levels higher than 1.0 mg/l as this would render the water unpalatable and may lead to an unacceptable level of corrosion.

2.112 While chlorine has an inhibitory effect on the formation of biofilm it is recognised as being less effective at penetrating and controlling established biofilms than some other oxidising disinfectants. Where a water system has an established legionella colonisation, the dosage of a chlorine product may suppress the growth of legionella.

2.113 Where a water system is relatively free from established biofilm, maintaining a free chlorine residual of 0.5–1.0 mg/l as Cl2 at an outlet will help reduce the development of biofilm in the preceding pipework and aid the control of legionella. A programme of regularly flushing the outlets until free chlorine residual is maintained can significantly improve the effectiveness of control in pipework leading to little used outlets.

2.114 Where used, the chlorine product dosing system should be inspected at least weekly to confirm that it is operating correctly and that there is no evidence of chemical leakage. Safeguards should be in place to prevent any overdosing in the system.

2.115 For most systems, routine inspection and maintenance, as in the bullet list below, is usually sufficient to ensure control. Remedial action should be taken when necessary and recorded.

- weekly – check the system operation and chemical stocks in the reservoir;
- monthly – measure the concentration of free chlorine at the sentinel taps – the concentration should be 0.5–1.0 mg/l; and adjust the chlorine product dosage to establish the required residual at the sentinel sample points;
- annually – test the chlorine product concentration at a representative selection of outlets throughout the distribution system – the target concentration should be at least 0.5 mg/l free chlorine.

Silver stabilised hydrogen peroxide

2.116 Silver stabilised hydrogen peroxide has a history of use in the control of legionella in water systems. A silver hydrogen peroxide solution is injected directly into the water system and if applied and maintained according to the manufacturers' instructions, can be an effective means of control. As with any water treatment programme it should be validated to ensure it is effective in controlling legionella. The system should be flushed to remove any nutrients and disinfectant released by the process. Silver hydrogen peroxide should not be used in water systems supplying dialysis units.

Supplementary measures

Point of Use (POU) filters

2.117 POU filters prevent the discharge of planktonic legionella and other potentially pathogenic microorganisms (bacteria and parasites) from the tap and shower outlets. They should be used primarily as a temporary measure until a permanent safe engineering solution is developed, although long-term use of such filters may be needed in some healthcare situations. They may also be considered where high level of disinfection of water systems may dislodge biofilm. Where POU filters are fitted, they should be renewed and replaced according to the manufacturer's recommendations.

Ozone and UV treatment

2.118 The strategies previously described are dispersive, ie they are directly effective throughout the water system downstream from the point of application. A number of other strategies are available, eg UV irradiation or ozone, and these systems are only effective at or very close to the point of application. This usually results in the residual effect not being directly measurable in the circulating system. In large systems, it may be necessary to use a number of point applications of these treatments and the system suppliers will be able to advise appropriately.

Microbiological monitoring

2.119 Microbiological monitoring of domestic hot and cold water supplied from the mains is not usually required, unless the risk assessment or monitoring indicates there is a problem. The risk assessment should specifically consider systems supplied from sources other than the mains, such as private water supplies, and sampling and analysis may be appropriate.

Monitoring for legionella

2.120 Legionella monitoring should be carried out where there is doubt about the efficacy of the control regime or it is known that recommended temperatures, disinfectant concentrations or other precautions are not being consistently achieved throughout the system. The risk assessment should also consider where it might also be appropriate to monitor in some high risk situations, such as certain healthcare premises. The circumstances when monitoring for legionella would be appropriate include:

- water systems treated with biocides where water is stored or distribution temperatures are reduced. Initial testing should be carried out monthly to provide early warning of loss of control. The frequency of testing should be reviewed and continued until such a time as there is confidence in the effectiveness of the regime;
- water systems where the control levels of the treatment regime, eg temperature or disinfectant concentrations, are not being consistently achieved. In addition to a thorough review of the system and treatment regimes, frequent testing, eg weekly, should be carried out to provide early warning of loss of control. Once the system is brought back under control as demonstrated by monitoring, the frequency of testing should be reviewed;
- high-risk areas or where there is a population with increased susceptibility, eg in healthcare premises including care homes;
- water systems suspected or identified in a case or outbreak of legionellosis where it is probable the Incident Control Team will require samples to be taken for analysis (see Appendix 2.3).

2.121 Where monitoring for legionella is considered appropriate in hot and cold water systems, sampling should be carried out in accordance with BS 7592 *Sampling for Legionella organisms in water and related materials*.[33] The complexity of the system will need to be taken into account to determine the appropriate number of samples to take. To ensure the sample is representative of the water flowing around the system and not just of the area downstream of the fitting, samples should be taken from separate hot and cold outlets rather than through mixer taps or outlets downstream of TMVs or showers. Samples should be clearly labelled with their source location and if collected pre- or post-flushing.

2.122 In both hot and cold water systems, samples should be taken:

- if considered necessary by the risk assessment;
- from areas where the target control parameters are not met (ie where disinfectant levels are low or where temperatures are below 50 °C (55 °C in healthcare premises) for HWS or exceed 20 °C for cold water systems);
- from areas subject to low usage, stagnation, excess storage capacity, dead legs, excessive heat loss, crossflow from the water system or other anomaly.

2.123 In cold water systems, samples should also be taken as required:

- from the point of entry (or nearest outlet) if the water is supplied from a private water supply or where the temperature of the incoming mains supply is above 20 °C from the cold water storage tank or tanks;
- from the furthest and nearest outlet on each branch of the system (far and near sentinel outlets).

2.124 In hot water systems, samples should also be taken as required:

- from the calorifier hot water outlet and from the base of the calorifier, if it safe to do so, as some systems are under considerable pressure;
- from the furthest and nearest outlet on each branch of a single pipe system (far and near sentinel outlets);
- from the furthest and nearest outlet on each loop of a circulating system (far and near sentinel outlets).

Info box 2.5: Analysis of water samples

Analysis of water samples for legionella should be performed in UKAS-accredited laboratories with the current ISO standard methods for the detection and enumeration of legionella included within the scope of accreditation. These laboratories should also take part in a water microbiology proficiency testing scheme (such as that run by PHE or an equivalent scheme accredited to ISO 17043). Alternative quantitative testing methods may be used as long as they have been validated using ISO 17994 and meet the required sensitivity and specificity.

2.125 Table 2.2 gives guidance on action to take if legionella is found in the water system. However, for healthcare premises with vulnerable patients, the action levels and recommended actions in Table 2.3 should be considered.

Table 2.2 Action levels following legionella sampling in hot and cold water systems

Legionella bacteria (cfu/l)	**Recommended actions**
>100 cfu/l and up to 1000	Either: ■ if the minority of samples are positive, the system should be resampled. If similar results are found again, a review of the control measures and risk assessment should be carried out to identify any remedial actions necessary or ■ if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of the control measures and risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals afterwards until a satisfactory level of control is achieved.

Cleaning and disinfection

2.126 The risk from exposure to legionella should be controlled by keeping the water system and water in it clean and free from nutrients, including those arising from contamination and corrosion; and maintaining its cleanliness. Hardness scale may also trap nutrients, encouraging biofilm formation and so form a barrier to disinfectants.

2.127 Where necessary, hot and cold water services should be cleaned, flushed and disinfected in the following situations, as specified in BS 8558:

- on completion of a new water installation or refurbishment of a hot and cold water system;
- on installation of new components, especially those which have been pressure tested using water by the manufacturer (see the manufacturer's instructions);
- where the hot and cold water is not used for a prolonged period and has not been flushed as recommended or the control measures have not been effective for a prolonged period. For example, this could be as little as two or three weeks, but will depend on the ambient temperature, condition of the water system, potential for exposure to aerosols and the susceptibility of users considered in a specific risk assessment;
- on routine inspection of the water storage tanks, where there is evidence of significant contamination or stagnation;
- if the system or part of it has been substantially altered or entered for maintenance purposes that may introduce contamination;
- following water sampling results that indicate evidence of microbial contamination of the water system (see Table 2.2 or 2.3);
- during, or following an outbreak or suspected outbreak of legionellosis linked to the system;
- or where indicated by the risk assessment.

2.128 A suitable safe system of work, or for more complex systems, a site-specific method statement should be obtained before the start of any cleaning and/or thermal or chemical disinfection of a water system. The documentation should clearly define the process to be undertaken and should be derived from risk assessments of the typically encountered hazards, which might include:

- access/egress, storage and special site hazards, eg asbestos;
- machinery and equipment isolation;
- work in confined spaces;
- manual handling;
- work at height;
- slips, trips and falls;
- electrical equipment;
- chemical(s) to be used;
- personal protective equipment required;
- waste disposal and chemical neutralising process (a discharge permit maybe required from the water utility).

2.129 Evidence of the competence of individuals undertaking the tasks should be confirmed, indicating that the knowledge and experience of the operatives is satisfactory for undertaking the proposed work.

2.130 Disinfection of the water services when the system is offline may be by:

- **thermal disinfection**, ie by raising the HWS temperature to a level at which legionella will not survive, drawing it through to every outlet, and then

flushing at a slow flow rate to maintain the high temperature for a suitable period (the contact time). This method is only applicable to HWS and is commonly used as a rapid response. It may be less effective than chemical disinfection and may not be practicable where the hot water supply is insufficient to maintain a high temperature throughout;

- **chemical disinfection**, ie by adding an effective agent such as chlorine or chlorine dioxide, drawing it through to every outlet, then closing the outlets and allowing it to remain in contact for a suitable period (known as the contact time). This method is commonly used when it is necessary to disinfect the cold water storage tanks and the whole system.

2.131 As part of the thermal or chemical disinfection process, a service record should be kept of all work undertaken. Any items that require attention or refurbishment should be noted on the disinfection record.

2.132 To confirm effective disinfection, any required microbiological samples should be taken between two and seven days after the system is refilled. Samples taken immediately after a disinfection process may give false negative results.

Info box 2.6: Thermal and chemical disinfection

Adding disinfectant or raising the temperature above 60 °C creates a hazard to users by chemical exposure or scalding. A risk assessment must be carried out and a safe system of work put in place throughout the disinfection process. Signage and outlet warning labels should be fitted to all areas to alert occupants of the building for whom the risk is greater (such as the very young, elderly or those with sensory loss) not to use these outlets.

Thermal disinfection

2.133 Thermal disinfection of hot water services is carried out by raising the temperature of the whole contents of the calorifier and circulating water for at least an hour. Every hot water outlet throughout the system must then be flushed and, to be effective, the temperature at the calorifier should be maintained high enough to ensure that the temperature at the outlets does not fall below 60 °C. Each tap and appliance should be run sequentially for at least five minutes at the full temperature (but not necessarily at full flow), and it should be measured and recorded.

2.134 Thermal disinfection may prove to be ineffective where parts of the calorifier or water system fail to reach the required temperature for a long enough period.

Chemical disinfection

2.135 The disinfection of a water system is normally based on chlorine being dosed at 50 ppm for a minimum contact period of one hour, at the end of which the concentration should not be less than 30 ppm free residual chlorine. However, lower concentrations and longer contact times are considered acceptable, as set out in BS 8558.

2.136 Other disinfectants may be used where they are shown to be effective. Their intended application should take into account the type of system and user profile at the specified concentration levels and contact period. If the disinfectant is for use in water systems supplying wholesome water then these must comply with the requirements of The Water Supply (Water Quality) Regulations 2000, for Scotland, The Water Supply (Water Quality) (Scotland) Regulations 2001 and 2010, and for Wales, the Water Supply (Water Quality) (Wales) Regulations 2010.

2.137 After disinfection, and before the system is brought back online, the disinfectant should be completely flushed from the system. Info box 2.7 is an example of a chemical-based disinfection procedure, in this case, chlorine.

Info box 2.7: Chlorine-based disinfection

Efficacy of chlorine as a disinfectant is pH dependent and pH values in excess of 7.6 should be avoided:

- Signage and outlet warning labels should be fitted to all areas.
- A pre-disinfection should take place if the conditions within the cold water storage tank are so poor that they could adversely affect the welfare of the operators undertaking the clean.

Cleaning:

- Drain the tank to the designated drain, neutralise any residual chlorine if a pre-disinfection has been completed.
- Under normal operation, the float-operated valve is a restriction within the supply pipework and so should be operated fully open, flushing any particulate matter from the supply main.
- Physically clean the tank and associated fittings using a method that does not damage the tank coatings. (It may not be possible to clean galvanised tanks where there is evidence of corrosion).
- Remove residual sludge and water by using a wet and dry vacuum cleaner, disposing to the designated location, and rinse the tank with fresh water.

Disinfection:

- Refill the tank with fresh make-up water, isolate from the mains supply and add the required quantity of disinfectant using the turbulence of filling to distribute it.
- Test the contents of the tank to confirm the required level of disinfectant has been achieved using a quantitative test kit.
- Draw the disinfecting solution through to the water heaters and subsequently to all outlets fed from the system.
- Test key far sentinel outlets to ensure the required concentration is reached.
- Test all other outlets with a fast and simple test showing the presence or absence of disinfectant.
- Top up the tank with fresh water and sufficient disinfectant to bring the concentration back up to target levels.
- Leave the system for the designated contact period.
- Retest key outlets at the end of the contact period to confirm that satisfactory disinfectant levels are achieved. Check concentrations at intervals during the contact period and restore the disinfectant levels if they decline. If the concentration should fall below the minimum, restart the process.
- Add a neutralising agent to the tank and ensure there is no disinfectant before flushing through to the water heaters.
- Draw neutralised water through to all outlets, measuring to ensure the absence of disinfectant.
- Remove signage and outlet warning labels.
- If the water is for non-potable use, the tank inlet can be reopened as long as the subsequent refilling dilutes any neutralising product to insignificant levels. If the tank supplies wholesome water to outlets, it should be fully drained, refilled with fresh water and flushed with water free from neutralising agent.

Shared premises and residential accommodation: Landlords

Residential accommodation: Landlords

2.138 Landlords who provide residential accommodation, as the person in control of the premises or responsible for the water systems in their premises, have a legal duty to ensure that the risk of exposure of tenants to legionella is properly assessed and controlled. This duty extends to residents, guests, tenants and customers. They can carry out a risk assessment themselves if they are competent, or employ somebody who is.

2.139 Where a managing (or letting) agent is used, the management contract should clearly specify who has responsibility for maintenance and safety checks, including managing the risk from legionella. Where there is no contract or agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of the premises and the water system in it, and in most cases, this will be the landlord themselves.

2.140 All water systems require a risk assessment but not all systems require elaborate control measures. A *simple* risk assessment may show that there are no real risks from legionella, but if there are, implementing appropriate measures will prevent or control these risks. The law requires simple, proportionate and practical actions to be taken, including identifying and assessing sources of risk, managing the risk, preventing or controlling the risk; and periodically checking that any control measures are effective.

2.141 For most residential settings, the risk assessment may show the risks are low, in which case no further action may be necessary, eg housing units with small domestic-type water systems where water turnover is high. If the assessment shows the risks are insignificant and are being properly managed to comply with the law, no further action may be required, but it is important to review the assessment periodically in case anything changes in the system. However, the frequency of inspection and maintenance will depend on the system and the risks it presents.

2.142 Simple control measures can help manage the risk of exposure to legionella and should be maintained, such as:

- flushing out the system before letting the property;
- avoiding debris getting into the system (eg ensure the cold water tanks, where fitted, have a tight-fitting lid);
- setting control parameters (eg setting the temperature of the calorifier to ensure water is stored at 60 °C);
- making sure any redundant pipework identified is removed;
- advising tenants to regularly clean and disinfect showerheads.

2.143 Landlords should inform tenants of the potential risk of exposure to legionella and its consequences and advise on any actions arising from the findings of the risk assessment, where appropriate. Tenants should be advised to inform the landlord if the hot water is not heating properly or if there are any other problems with the system, so that appropriate action can be taken.

2.144 The risk may increase where the property is unoccupied for a short period. It is important that water is not allowed to stagnate within the water system and so

dwellings that are vacant for extended periods should be managed carefully. As a general principle, outlets on hot and cold water systems should be used at least once a week to maintain a degree of water flow and minimise the chances of stagnation. To manage the risks during non-occupancy, consider implementing a suitable flushing regime or other measures, such as draining the system if the dwelling is to remain vacant for long periods.

2.145 Where there are difficulties gaining access to occupied housing units, appropriate checks can be made by carrying out inspections of the water system, eg when undertaking mandatory visits such as gas safety checks or routine maintenance visits.

2.146 It may be impractical to risk assess every individual residential unit, eg where there are a significant number of units under the control of the landlord, such as Housing Associations or Councils. In such cases, a representative proportion of the premises for which they have responsibility should initially be assessed, on the basis of similar design, size, age and water supply, with the entire estate eventually assessed on a rolling programme of work.

Shared premises

2.147 Those who have, to any extent, control of premises for work-related activities or the water systems in the building, have a responsibility to those who are not their employees, but who use those premises. A suitable and sufficient assessment must be carried out to identify, assess and properly control the risk of exposure to legionella bacteria from work activities and the water systems on the premises.

2.148 In estate management, it is increasingly common for there to be several dutyholders in one building. In such cases, duties may arise where persons or organisations have clear responsibility through an explicit agreement, such as a contract or tenancy agreement.

2.149 The extent of the duty will depend on the nature of that agreement. For example, in a building occupied by one leaseholder, the agreement may be for the owner or leaseholder to take on the full duty for the whole building or to share the duty. In a multi-occupancy building, the agreement may be that the owner takes on the full duty for the whole building. Alternatively, it might be that the duty is shared where, eg the owner takes responsibility for the common parts while the leaseholders take responsibility for the parts they occupy. In other cases, there may be an agreement to pass the responsibilities to a managing agent. Where a managing agent is used, the management contract should clearly specify who has responsibility for maintenance and safety checks, including managing the risk from legionella.

2.150 Where there is no contract or tenancy agreement in place or it does not specify who has responsibility, the duty is placed on whoever has control of the premises, or part of the premises.

Info box 2.8: Example of shared premises and responsibilities

A managing agent looks after a commercial building and provides mains hot and cold water services to three tenanted areas. By contract, the managing agent has a responsibility to risk assess and ensure the safety of the water from the incoming mains up to where the water enters the part of the building the tenant occupies. The tenants have the responsibility to do the same from the point at which it enters their premises. All parties should take steps to ensure that each is fulfilling the legal responsibilities for the parts of the building over which they have control. The managing agent should take steps, eg by contractual arrangements, to ensure that tenants are complying with their duties because if the tenant's water system becomes contaminated with legionella bacteria it may act as a reservoir, seeding it back down into the systems for which the managing agent has responsibility.

2.151 Where employers share premises or workplaces, the Management of Health and Safety at Work Regulations 1999, regulation 11 (see www.hse.gov.uk/risk for more information) requires that they cooperate with each other to ensure their respective obligations are met. For example, with regard to the management of the water systems in the building, routine monitoring by any party may indicate possible problems within the building water system. This information should be communicated to enable cooperation and coordination, particularly where another party may be able to help or are contributing to the risk. In such cases, a joint plan can be formulated and appropriate remedial action taken.

Special considerations for healthcare and care homes

2.152 Legionnaires' disease is a potentially fatal form of pneumonia and everyone is susceptible to infection, but there are a number of factors that increase susceptibility, including increasing age (particularly those over 50 years); those with existing respiratory diseases or certain illnesses and conditions such as cancer, diabetes, kidney disease; alcoholics; smokers; and those with an impaired immune system.

2.153 Special consideration should be given to patients or occupants within healthcare premises, residential or care homes where they are exposed to water systems and a range of potential sources of waterborne infection, eg patient ventilation humidification systems that are not necessarily present in a non-healthcare setting.

2.154 This guidance gives information on special considerations where there are susceptible individuals but should be applied proportionately, eg in an acute hospital setting where there are likely to be a larger number of susceptible patients at risk of infection, the organisation may need to follow most or all aspects of the guidance. However, in other settings where there may be less susceptible residents, a local risk assessment will help determine which aspects of this guidance are relevant. Further guidance is also available for care settings in *Health and safety in care homes*.

2.155 Appendix 2.1 gives information on what the risk assessment should consider and should take into account the susceptibility of 'at risk' patients. Both the relative risks of legionella infection, scalding and any additional measures that may be required to effectively manage those risks should be considered.

Info box 2.9: Patients in augmented care units

Water systems: Health Technical Memorandum HTM 04–01 published by the Department of Health (England) advises that it may be preferable to provide separate small systems, with independent supply and local heating sources for patients in augmented care units (ie where medical/nursing procedures render the patients susceptible to invasive disease from environmental and opportunistic pathogens and include patients).

2.156 Hot and cold water systems should be maintained to keep cold water, where possible, at a temperature below 20 °C, and stored hot water at 60 °C and distributed so that it reaches the outlets at 55 °C within one minute. The minimum temperature at the most distant point should be 55 °C, ie the temperature of the hot water as it returns to the calorifier should not fall below 50 °C. Circulation of cold water and refrigeration should only be considered in specialist units where people are at particular risk as a result of immunological deficiency, eg transplant units. All other uses of water should also be considered and appropriate action taken, as these may not be appropriate in an augmented care setting (eg use of ice machines, drinking water fountains, bottled water dispensers etc). Where required, they should be considered as part of the risk assessment as there is an increased risk in compromised patients for legionella infection to occur following aspiration of ingested water contaminated with legionella.

2.157 For healthcare premises, the Department of Health (England) *Health Technical Memorandum 04–01: Addendum* advises the formation of Water Safety Groups (WSG) who develop the Water Safety Plan (WSP). Although the addendum focuses on specific additional measures to control or minimise the risk of *Pseudomonas aeruginosa* in augmented care units, it also has relevance to other waterborne pathogens including legionella. Info box 2.10 provides a brief summary of what constitutes a WSP and WSG. While not statutory under health and safety legislation, the formation of a WSG

Info box 2.10: Water Safety Groups and Water Safety Plans

Water Safety Group – The WSG is a multidisciplinary group formed to undertake the commissioning, development, implementation and review of the WSP. The aim of the WSG is to ensure the safety of all water used by patients/ residents, staff and visitors, to minimise the risk of infection associated with water, including legionella. It provides a forum in which people with a range of competencies can be brought together to share responsibility and take collective ownership for ensuring it identifies microbiological hazards, assesses risks, identifies and monitors control measures and develops incident protocols.

As per the addendum, the roles, responsibility and accountability of the WSG should be defined. The chair of the WSG is a local decision but the Director of Infection Prevention and Control (DIPC) may normally lead the group. The WSG may typically comprise personnel who:

- are familiar with all water systems and associated equipment in the building(s) and the factors which may increase risk of legionella infection, ie the materials and components, the types of use and modes of exposure, together with the susceptibility to infection of those likely to be exposed;
- have knowledge of the particular vulnerabilities of the 'at risk' population within the facility and, as part of its wider remit, the WSG should include representatives from areas where water may be used in therapies, medical treatments or decontamination processes (eg hydrotherapy, renal, sterile services) where exposure to aerosols may take place.

Water Safety Plans – The WSP is a risk management approach to the microbiological safety of water that establishes good practices in local water usage, distribution, supply and controls. It will identify potential microbiological hazards, consider practical aspects and detail appropriate control measures. WSPs are working documents that need to be kept up to date and reviewed to ensure the adequate assessment and control of the risks from a wide range of waterborne pathogens, including legionellae in healthcare and care home settings.

WSPs include the need to:

- assess the risks which may be posed to patients (including those with particular susceptibility), employees and visitors;
- put into place appropriate management systems to ensure the risks are adequately controlled;
- ensure there are supporting programmes, including communication, training and competency checks.

The risks from legionellosis should form an integral part of any WSP, ensuring that there is adequate documentation and communication with the WSG both for normal operation of the systems and following incidents, eg when there have been failures in controls, equipment, cases of illness associated with the system etc.

and implementation of a WSP complements the requirements in the Approved Code of Practice *Legionnaires' disease. The control of legionella bacteria in water systems* for an adequate assessment of risk and the formulation and implementation of an effective written control scheme to minimise the risks from exposure to legionellosis. This should be applied proportionately depending on the setting.

Monitoring for legionella

2.158 The strategy for monitoring for legionella should identify patients at increased risk, eg in areas where immuno-compriomised patients are present, such as oncology, haematology and transplant units. The strategy should identify all components of the recirculating water system in those units and representative outlets where water samples can be taken and results interpreted to determine the level of colonisation.

2.159 Legionella monitoring should be carried out where there is doubt about the efficacy of the control regime or where recommended temperatures, disinfectant concentrations or other precautions are not being consistently achieved throughout the system. Where considered appropriate, monitoring for legionella should be carried out in line with BS 7592 *Sampling for legionella in water and related materials*. See paragraphs 2.119–2.125 for further information.

2.160 Monitoring results to determine appropriate action levels, depending on whether colonisation is local to an outlet or more widespread within the water system, should be interpreted by a competent person. To establish if the circulating hot water or the distributed cold water is under control, samples should be taken from separate hot and cold water outlets which are not blended. This will ensure the sample is representative of the water flowing around the system and not just of the area downstream of the mixing valve. Monitoring of hot and cold water systems where TMVs are fitted needs careful consideration to ensure the results are interpreted in the context of the conditions in place at the time of sampling.

2.161 Table 2.3 describes the action levels in healthcare premises with susceptible patients at an increased risk of exposure. Whereas, in a general healthcare setting where legionella monitoring is considered appropriate, Table 2.2 describes the actions to be taken.

2.162 Where considered necessary for ongoing patient management, POU filters should be used primarily as a temporary control measure while a permanent safe engineering solution is developed, although long-term use of such filters may be required in some cases.

Table 2.3 Actions to be taken following legionella sampling in hot and cold water systems in healthcare premises with susceptible patients

Legionella bacteria (cfu/l)	Recommended actions
Not detected or up to 100 cfu/l	In healthcare, the primary concern is protecting susceptible patients, so any detection of legionella should be investigated and, if necessary, the system resampled to aid interpretation of the results in line with the monitoring strategy and risk assessment
>100 cfu/l and up to 1000 cfu/l	Either: ■ if the minority of samples are positive, the system should be resampled. If similar results are found again, review the control measures and risk assessment to identify any remedial actions necessary or ■ if the majority of samples are positive, the system may be colonised, albeit at a low level. An immediate review of control measures and a risk assessment should be carried out to identify any other remedial action required. Disinfection of the system should be considered
>1000 cfu/l	The system should be resampled and an immediate review of the control measures and risk assessment carried out to identify any remedial actions, including possible disinfection of the system. Retesting should take place a few days after disinfection and at frequent intervals thereafter until a satisfactory level of control is achieved

Scalding

2.163 There is a risk of scalding where the water temperature at the outlet is above 44 °C. In certain facilities with 'at risk' patients this is especially so where there is whole body immersion in baths and showers of vulnerable patients, including the very young, elderly people, and people with disabilities or those with sensory loss who may not be able to recognise high temperatures and respond quickly. Where there are vulnerable individuals and whole body immersion, testing of outlet temperatures using a thermometer can provide additional reassurance.

2.164 The potential scalding risk should be assessed and controlled in the context of the vulnerability of those being cared for. The approach will depend on the needs and capabilities of patients or residents. For most people, the scalding risk is minimal where water is delivered up to 50 °C at hand washbasins and using hot water signs may be considered sufficient, where a TMV is not fitted. However, where vulnerable people are identified and have access to baths or showers and the scalding risk is considered significant, TMV Type 3 (TMV3) are required. Further advice on safe bathing can be found in the UK Homecare Association (UKHCA) guidance *Controlling scalding risks from bathing and showering*.[34]

2.165 Where the risk assessment considers fitting TMVs appropriate, the strainers or filters should be inspected, cleaned, descaled and disinfected annually or on a frequency defined by the risk assessment, taking account of any manufacturers' recommendations. To maintain protection against scald risk, TMVs require regular routine maintenance carried out by competent individuals in accordance with the manufacturer's instructions. HSE's website provides further information at www.hse.gov.uk/healthservices/scalding-burning.htm.

Info box 2.11: Use of TMV Type 3 (TMV3)

TMV3 meets the requirements of the NHS Estates Model Engineering Specification *Thermostatic mixing valves (healthcare premises)*[35] and cannot be overridden by the user. In reality, the chances of a severe scald from a washbasin tap are low and the need for a TMV3 on a hand washbasin should be assessed against the need for legionella control. It is important that a documented maintenance schedule is followed and the TMVs maintained to the standard recommended by the manufacturer.

Flushing

2.166 The risk from legionella is increased in peripheral parts of the hot and cold water system where there are remote outlets such as hand washbasins, and dead legs. Where reasonably practicable, dead legs should be removed or the risk minimised by regular use of these outlets. Where outlets in healthcare facilities with susceptible patients are not in regular use the risk assessment may indicate the need for more frequent flushing, ie twice weekly and water draw off should form part of the daily cleaning process to achieve temperature control for both hot and cold water and/or biocide flow through.

2.167 In circumstances where there has been a lapse in the flushing regime, the stagnant and potentially contaminated water from within the shower or tap and associated dead leg should be purged to drain without discharge of aerosols before the appliance is used.

2.168 For comprehensive advice about the legal requirements, design applications, maintenance and operation of hot and cold water supply, storage and distribution systems in healthcare premises, refer to *Water systems: Health Technical Memorandum 04–01* (for England and Wales), or to S*cottish Health Technical Memorandum 04–01* (for Scotland).

Appendix 2.1 Legionella risk assessment

1 It is a legal duty to carry out an assessment to identify and assess whether there is a risk posed by exposure to legionella from the hot and cold water system or any work associated with it.

2 The risk assessment should consider all aspects of operation of the hot and cold water systems and while there will be common factors, the individual characteristics of each system should be taken into account. Site personnel who manage the systems to determine current operational practice should be consulted. The commissioning, decommissioning, periods of operation, maintenance, treatment and subsequent management of each individual aspect of operation will require review and validation to ensure site procedures are effective.

3 The checklist below gives the most common key requirements when assessing risk associated with a hot and cold water system based on mechanical, operational, chemical and management aspects:

- details of management personnel who play an active role in the risk management process, to include names, job titles and contact information for:
  - the dutyholder;
  - the appointed responsible person (s), including deputies;
  - service providers, eg water treatment suppliers, cleaning and disinfection service providers;
- an assessment of the competence of those associated with risk management, including their training records;
- identification of roles and responsibilities, to include employees, contractors and consultants;
- a check to confim that consideration was given to preventing the risk by elimination or substitution before implementing appropriate control measures;
- the scope of the assessment, ie the details and entirety of the plant being assessed;
- assessment of the validity of the schematic diagram which should include all parts of the system where water may be used or stored;
- details of the design of the system, including an asset register of all associated plant, pumps, strainers, outlets and other relevant items;
- assessment of the potential for the water system to become contaminated with legionella and other material;
- details of any water pre-treatment process;
- assessment of the potential for legionella to grow within the system and effectiveness of control measures:
  - chemical and physical water treatment measures;
  - disinfection and cleaning regimes;
  - remedial work and maintenance;
- evidence of corrective actions being implemented;
- evidence of proactive management and follow-up of previous assessment recommendations or identified remedial actions;
- evidence of the competence of those involved in control and monitoring activities;
- a review of the legionella control scheme, including management procedures and site records or logbooks, which include:
  - system maintenance records;
  - routine monitoring data;

- water treatment and service reports;
- cleaning and disinfection records;
- legionella and other microbial analysis results.

The following specific considerations should also be assessed for hot and cold water systems:

- quality of the supply water – where this is not wholesome, additional risks and measures to mitigate the risk must be included in the risk assessment process;
- examination of tanks for configuration, flow pattern, protection against contamination, materials of construction, condition, temperature, size in comparison to water consumption and cleanliness or contamination;
- any points in the system where there is a possibility of low or no flow, such as blind ends, dead legs and little used outlets;
- any parts of the CWDS susceptible to heat gain to an extent that could support the growth of legionella;
- any parts of the system with low water throughput including, eg low-use fittings in unoccupied areas or oversized tanks that may lead to stagnation;
- any parts of the system which are configured in parallel with others and where the water flow could be unbalanced;
- hot water system return pipes – stagnation often occurs, particularly at points furthest away from the water heater, where circulation has failed and the hot water has cooled;
- timely, appropriate remedial action to poor temperature or monitoring results and using this as an indicator of the effectiveness and adequacy of the management controls in place.

The assessment should include recommendations for remedial actions for controlling legionella where necessary and identify who will undertake the actions. Actions should be prioritised and a review date set for determining completion of these tasks.

See BS 8580[36] for more information.

Appendix 2.2 Legionella written control scheme

1 The risk from exposure will normally be controlled by measures which do not allow the proliferation of legionella bacteria in the system. Once the risk is identified and assessed, a written control scheme should be prepared, implemented and properly managed for preventing or controlling legionella.

2 The scheme should specify the various control measures, how to use and carry out those measures, describe the water treatment regimes and the correct operation of the water system. The scheme should be specific and tailored to the system covered by the risk assessment. Along with the guidance in this document, this appendix summarises the information to include in a legionella written control scheme, ie:

- purpose;
- scope;
- risk assessment;
- management structure:
  - dutyholder;
  - responsible person(s) and communication pathways;
  - training;
  - allocation of responsibilities, ie to the dutyholder, responsible person(s) and water treatment service provider;
- up-to-date schematic plan showing the layout of the system(s) and its location within and around the premises – this should identify piping routes, storage and header tanks, calorifiers and relevant items of plant, especially water softeners, filters, strainers, pumps and all water outlets;
- the correct and safe operation of the system;
- precautions in place to prevent or minimise risk associated with the system;
- analytical tests, including microbiological testing, other operational checks, inspections and calibrations to be carried out, their frequency and any resulting corrective actions;
- remedial action to be taken in the event that the scheme is shown not to be effective, including control scheme reviews and any modifications made;
- health and safety information, including details on storage, handling, use and disposal of any chemical used in both the treatment of the system and testing of the system water;
- incident plan, which covers the following situations:
  - major plant failure, eg chemical system failure;
  - very high levels or repeat positive water analyses for legionella;
  - an outbreak of legionellosis, suspected or confirmed as being centred at the site;
  - an outbreak of legionellosis, the exact source of which has yet to be confirmed, but which is believed to be centred in an area which includes the site.

Appendix 2.3 Action to take if there is an outbreak of legionellosis

1 In England and Wales, legionnaires' disease is notifiable under the Health Protection (Notification) Regulations 2010[37] and in Scotland under the Public Health (Notification of Infectious Diseases) (Scotland) Regulations 1988.[38] Under these Regulations, human diagnostic laboratories must notify Public Health England (PHE), Public Health Wales (PHW) or Health Protection Scotland (HPS) (see 'Further sources of advice') of microbiologically confirmed cases of legionnaires' disease.

2 An outbreak is defined as two or more cases where the onset of illness is closely linked in time (weeks rather than months) and where there is epidemiological evidence of a common source of infection, with or without microbiological evidence. An incident/outbreak control team should always be convened to investigate outbreaks. It is the responsibility of the Proper Officer to declare an outbreak. The Proper Officer, appointed by the Local Authority, is usually a Consultant in Communicable Diseases Control (CCDC) in England and Wales, or the Consultant in Public Health Medicine (CPHM) in Scotland. If there are suspected cases of the disease, medical practitioners must notify the Proper Officer in the relevant local authority.

3 Local Authorities will have jointly established incident plans to investigate major outbreaks of infectious diseases, including legionellosis, and it is the Proper Officer who activates these and invokes an Outbreak Committee, whose primary purpose is to protect public health and prevent further infection.

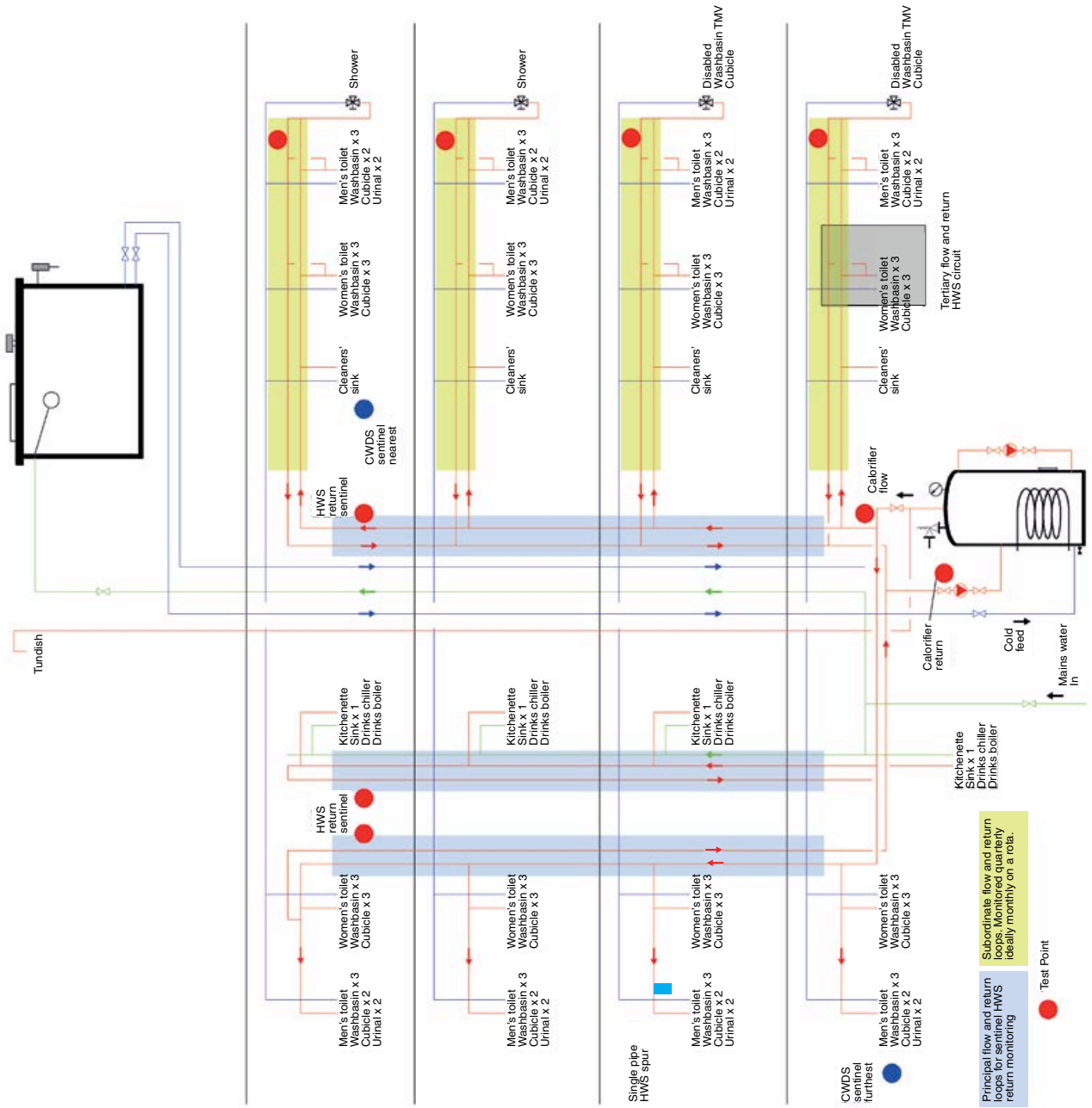
4 HSE or local Environmental Health Officers may be involved in the investigation of outbreaks, their aim being to pursue compliance with health and safety legislation. The local authority, Proper Officer or EHO acting on their behalf will make a visit for public health reasons, often with the relevant officer from the enforcing authorities (ie HSE or the local authority) for health and safety reasons. Any infringements of relevant legislation may be subject to a formal investigation by the appropriate enforcing authority.

5 There are published guidelines (by PHE, PHW and HPS) for the investigation and management of incidents, clusters, and outbreaks of legionnaires' disease in the community.

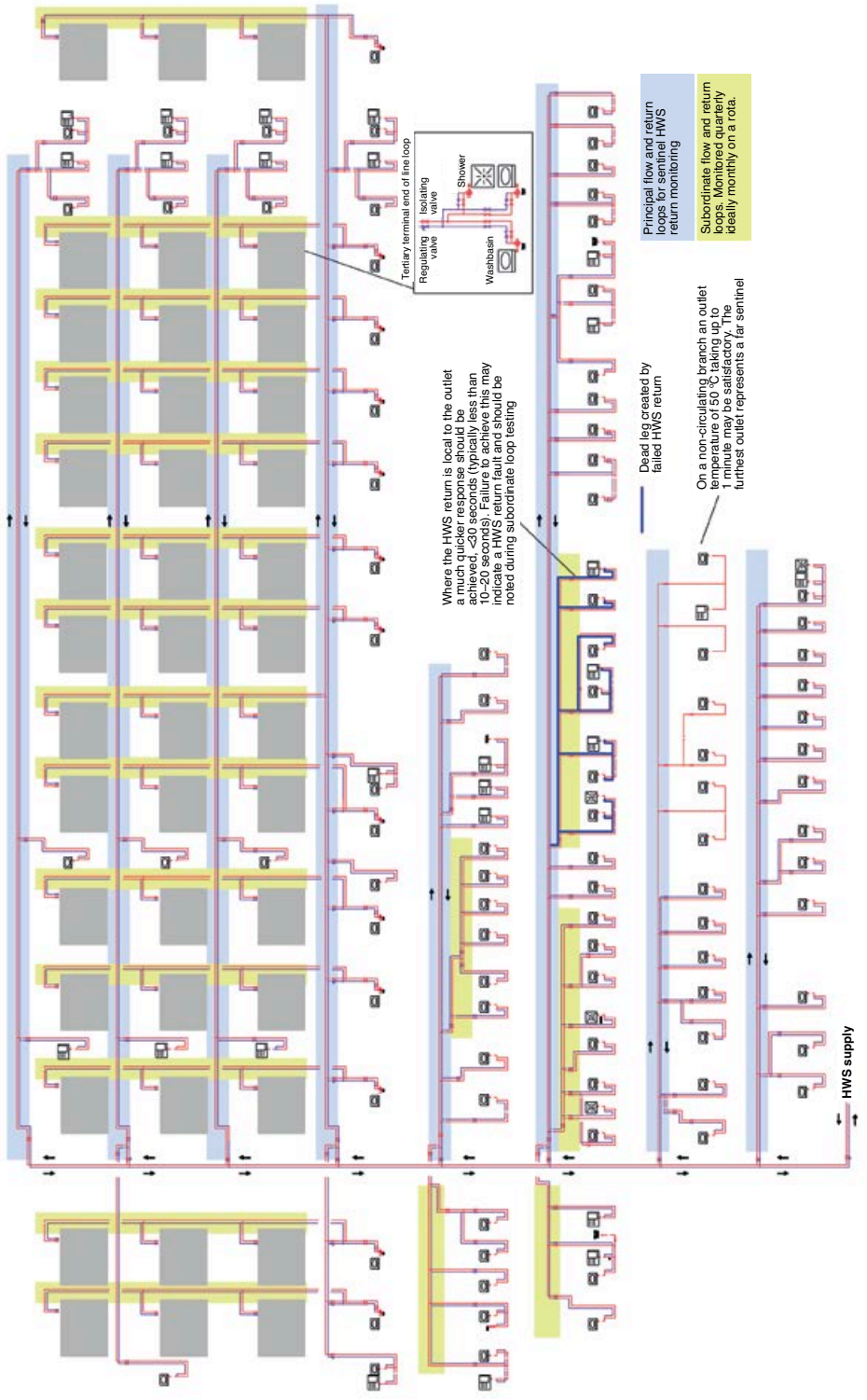
6 These are, for England and Wales, *Guidance on the Control and Prevention of Legionnaires' Disease in England*[39] and for Scotland, *Guidelines on Management of Legionella Incidents, Outbreaks and Clusters in the Community*.[40]

7 If a water system is implicated in an outbreak of legionnaires' disease, emergency treatment of that system should be carried out as soon as possible. This will usually involve the processes detailed in paragraphs 2.124–2.135.

Appendix 2.4 Example of sentinel points in a simple hot water system (HWS)



Appendix 2.5 Example of sentinel points in a complex hot water system (HWS)



Glossary

aerosol a suspension in a gaseous medium of solid particles, liquid particles or solid and liquid particles having a negligible falling velocity. In the context of this document, it is a suspension of particles which may contain legionella with a typical droplet size of <5 µm that can be inhaled deep into the lungs.

algae a small, usually aquatic, plant that requires light to grow.

bacteria (singular bacterium) a microscopic, unicellular (or more rarely multicellular) organism.

biocide a substance which kills microorganisms.

biofilm a community of bacteria and other microorganisms embedded in a protective layer with entrained debris, attached to a surface.

calorifier an apparatus used for the transfer of heat to water in a vessel, the source of heat being contained within a pipe or coil immersed in the water.

chlorine an element used as a biocide and for disinfection.

chlorine dioxide a compound used as a biocide.

cold water service installation of plant, pipes and fitting in which cold water is stored, distributed and subsequently discharged.

contact time the time a chemical is retained in the system.

corrosion inhibitors chemicals which protect metals by: passivating the metal by the promotion of a thin metal oxide film (anodic inhibitors); or physically forming a thin barrier film by controlled deposition (cathodic inhibitors).

dead end/blind end a length of pipe closed at one end through which no water passes.

dead leg a length of water system pipework leading to a fitting through which water only passes infrequently when there is draw off from the fitting, providing the potential for stagnation.

disinfection the reduction of the number of microorganisms to safe levels by either chemical or non-chemical means (eg biocides, heat or radiation).

distribution circuit pipework which distributes water from hot or cold water plant to one or more fittings/appliances.

domestic water hot and cold water intended for drinking, washing, cooking, food preparation or other domestic purposes.

fouling organic growth or other deposits on heat transfer surfaces causing loss in efficiency.

hot water service installation of plant, pipes and fittings in which water is heated, distributed and subsequently discharged (not including cold water feed tank or cistern).

legionnaires' disease a form of pneumonia caused by bacteria of the genus legionella.

legionella (plural legionellae) a bacterium (or bacteria) of the genus legionella.

legionellosis any illness caused by exposure to legionella.

mg/l (milligrams per litre) a measure of dissolved substances given as the number of parts there are in a million parts of solvent. It is numerically equivalent to ppm (parts per million) with respect to water.

microorganism an organism of microscopic size, including bacteria, fungi and viruses.

neonates newborn children.

nutrient a food source for microorganisms.

pasteurisation heat treatment to destroy microorganisms, usually at high temperature.

pH the logarithm of the reciprocal of the hydrogen ion concentration in water, expressed as a number between 0 and 14 to indicate how acidic or alkaline the water is. Values below 7 are increasingly acidic, 7 is neutral, and values higher than 7 are progressively alkaline. However, acidity and alkalinity are not proportional to pH.

planktonic free-floating microorganisms in an aquatic system.

point of use (POU) filters a filter with a maximal pore size of 0.2 µm applied at the outlet, which removes bacteria from the water flow.

ppm (parts per million) a measure of dissolved substances given as the number of parts there are in a million parts of solvent. It is numerically equivalent to milligrams per litre (mg/l) with respect to water.

risk assessment identifying and assessing the risk from legionellosis from work activities and water sources on premises and determining any necessary precautionary measures.

scale inhibitors chemicals used to control scale. They function by holding up the precipitation process and/or distorting the crystal shape, thus preventing the build-up of a hard adherent scale.

sentinel taps for hot water services – the first and last taps on a recirculating system. For cold water systems (or non-recirculating HWS), the nearest and furthest taps from the storage tank. The choice of sentinel taps may also include other taps which represent parts of the recirculating system where monitoring can aid control.

sero-group a sub-group of the main species.

sessile aquatic microorganisms adhering to a surface, normally as part of a biofilm.

shunt pump a circulation pump fitted to hot water service/plant to overcome the temperature stratification of the stored water.

slime a mucus-like exudate that covers a surface produced by some microorganisms.

sludge a general term for soft mud-like deposits found on heat transfer surfaces or other important sections of a cooling system. Also found at the base of calorifiers and cold water storage tanks.

stagnation the condition where water ceases to flow and is therefore liable to microbiological growth.

strainers coarse filters usually positioned upstream of a sensitive component, such as a pump control valve or heat exchanger, to protect it from debris.

thermal disinfection heat treatment to disinfect a system.

thermostatic mixing valve a mixing valve in which the temperature at the outlet is pre-selected and controlled automatically by the valve.

total viable counts (TVC) the total number of culturable bacteria (per volume or area) in a given sample (does not include legionella).

wholesome water water supplied for such domestic purposes as cooking, drinking, food preparation or washing; or supplied to premises in which food is produced

References

1 Legionnaires' disease: The control of legionella bacteria in water systems. Approved Code of Practice L8 (Fourth edition) HSE Books 2013 www.hse.gov.uk/pubns/books/l8.htm

2 *Health and Safety at Work etc Act 1974* (c 37) The Stationery Office 1974 ISBN 978 0 10 543774 1

3 *Hazardous substances at work: A brief guide to COSHH* Leaflet INDG136(rev5) HSE Books 2012 www.hse.gov.uk/pubns/indg136.htm

4 *The Notification of Cooling Towers and Evaporative Condensers Regulations* 1992 SI 1992/2225 The Stationery Office

5 *Reporting accidents and incidents at work: A brief guide to the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR)* Leaflet INDG453(rev1) HSE Books 2013 www.hse.gov.uk/pubns/indg453.htm

6 *Consulting workers on health and safety. Safety Representatives and Safety Committees Regulations 1977 (as amended) and Health and Safety (Consultation with Employees) Regulations 1996 (as amended). Approved Codes of Practice and guidance* L146 (Second edition) HSE Books 2012 ISBN 978 0 7176 6461 0 www.hse.gov.uk/pubns/books/l146.htm

7 BS 8580 *Water quality. Risk assessments for Legionella control. Code of practice* British Standards Institution

8 *Guide to risk assessment for water services* The Water Management Society www.wmsoc.org.uk/publication.html

9 *A Recommended Code of Conduct for Service Providers* The Legionella Control Association 2013 www.legionellacontrol.org.uk.

10 *Water Fittings and Materials Directory* Water Regulations Advisory Scheme www.wras.co.uk/Directory

11 BS 6920-2-1+A3 *Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water. Methods of test* British Standards Institution

12 *Health and safety in care homes* HSG220 HSE Books 2001 ISBN 978 0 7176 2082 1 www.hse.gov.uk/pubns/books/hsg220.htm

13 *Water systems: Health Technical Memorandum 04–01: The control of Legionella, hygiene, 'safe' hot water, cold water and drinking water systems* Department of Health 2006

14 *Scottish Health Technical Memorandum 04-01* Health Facilities Scotland www.hfs.scot.nhs.uk/publications-1/engineering/shtm-04-01/

15 *Water Supply (Water Fitting) Regulations* 1999 SI 1148/1999 The Stationery Office

16 *Water Byelaws 2004* Scottish Water www.scottishwater.co.uk

17 BS 3198 *Specification for copper hot water storage combination units for domestic purposes* British Standards Institution

18 *Managing health and safety in construction. Construction (Design and Management) Regulations 2007. Approved Code of Practice* L144 HSE Books 2007 ISBN 978 0 7176 6223 4 www.hse.gov.uk/pubns/books/l144.htm

19 Approved Documents for Building Regulations in England and Wales: www.planningportal.gov.uk/buildingregulations/
Approved Documents for Building Regulations in Scotland: www.scotland.gov.uk/Topics/Built-Environment/Building/Building-standards

20 *The Private Water Supplies Regulations 2009* SI 3101/2009 The Stationery Office

21 *The Private Water Supplies (Wales) Regulations 2010* Welsh SI 66/2010 The Stationery Office

22 *The Private Water Supplies (Scotland) Regulations 2006* SSI 209/2006 The Stationery Office

23 BS EN 806 (Parts 1–5) *Specifications for installations inside buildings conveying water for human consumption* British Standards Institution

24 BS 8558 *Guide to the design, installation, testing and maintenance of services supplying water for domestic use within buildings and their curtilages* British Standards Institution

25 *Guide G: Public Health Engineering* CIBSE www.cibse.org

26 *The Water Supply (Water Quality) Regulations 2001* SI 3911/2001 The Stationery Office

27 *Water Industry Act 1991* The Stationery Office 1991 ISBN 978 0 10 545691 9

28 *Water (Scotland) Act 1980* The Stationery Office 1980 ISBN 978 0 10 544580 7

29 *The Water Supply (Water Quality) (Wales) Regulations 2010* SSI 994/2010 The Stationery Office

30 *The Water Supply (Water Quality) (Scotland) Regulations 2001* SSI 207/2001 The Stationery Office

31 *The Water Supply (Water Quality) (Scotland) Regulations 2010* SSI 95/2010 The Stationery Office

32 BS EN 12671 *Chemicals used for treatment of water intended for human consumption. Chlorine dioxide generated in situ* British Standards Institution

33 BS 7592 *Sampling for Legionella organisms in water systems. Code of Practice* British Standards Institution

34 *Controlling scalding risks from bathing and showering* United Kingdom Homecare Association (UKHCA) www.ukhca.co.uk

35 *Thermostatic mixing valves (healthcare premises)* NHS Model Engineering Specifications D08 NHS 1997

36 BS 8580 *Water quality. Risk assessments for Legionella control. Code of practice* British Standards Institution

37 *The Health Protection (Notification) Regulations 2010* SI 659/2010 The Stationery Office

38 *The Public Health (Notification of Infectious Diseases) (Scotland) Regulations 1988* SSI1550/1988 The Stationery Office

39 *Guidance on the Control and Prevention of Legionnaires' Disease in England* Health Protection Agency 2010 www.hpa.org.uk

40 *Guidelines on Management of Legionella Incidents, Outbreaks and Clusters in the Community* Health Protection Agency Scotland 2009 www.hpa.scot.nhs.uk

Further sources of advice

United Kingdom Accreditation Service (UKAS), 21–47 High Street, Feltham, Middlesex TW13 4UN www.UKAS.com

Public Health England (PHE)
www.gov.uk/government/organisations/public-health-england

Public Health Wales (PHW) www.publichealthwales.wales.nhs.uk

Health Protection Scotland (HPS) www.hps.scot.nhs.uk

Acknowledgements

HSE thanks the following organisations for providing representatives with technical expertise, which was used when preparing the technical guidance that appears in this publication: Legionella Control Association (Howard Barnes, Robert McLeod-Smith); British Association for Chemical Specialities (Tim Parkinson, Geoff Walker, John Smith); Water Management Society (John Lindeman, Alan Elsworth, Mike Hunter, Graham Thompson, Giles Green, Alan Greaves, Susanne Lee); and Dr Tom Makin.

Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit www.hse.gov.uk/. You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

This guidance is issued by the Health and Safety Executive. Following the guidance is not compulsory, unless specifically stated, and you are free to take other action. But if you do follow the guidance you will normally be doing enough to comply with the law. Health and safety inspectors seek to secure compliance with the law and may refer to this guidance.

British Standards can be obtained in PDF or hard copy formats from BSI: http://shop.bsigroup.com or by contacting BSI Customer Services for hard copies only Tel: 0845 086 9001 email: cservices@bsigroup.com.

The Stationery Office publications are available from The Stationery Office, PO Box 29, Norwich NR3 1GN Tel: 0870 600 5522 Fax: 0870 600 5533 email: customer.services@tso.co.uk Website: www.tsoshop.co.uk/ (They are also available from bookshops.) Statutory Instruments can be viewed free of charge at www.legislation.gov.uk/, where you can also search for changes to legislation.

This document is available at www.hse.gov.uk/pubns/priced/hsg274part2.pdf.

From: Stewart Ian (NATIONAL SERVICES SCOTLAND)
To: Leiper James (NHS FIFE); Gallacher, Alan; Douglas, Brian; Gillespie Brian (NHS FIFE); Barr Bruce (NHS HIGHLAND); Doherty, Daniel; Bennett David (NHS TAYSIDE); david.browning[redacted] Martin David (STATE HOSPITALS BOARD FOR SCOTLAND); Stewart Donald (NHS WESTERN ISLES); Armour Doris (NHS FIFE); McLaughlan Edward (NATIONAL SERVICES SCOTLAND); McNeil, Elaine; Green Eric (NHS HIGHLAND); Mortimer Gary (NHS GRAMPIAN); Arkley Gary (NHS BORDERS); george.curley[redacted] Mutch Graham (NHS GRAMPIAN); McInally Iain (NHS AYRSHIRE & ARRAN); Bryden Ian (NHS DUMFRIES & GALLOWAY); Dapre Kathryn (NATIONAL SERVICES SCOTLAND); Hogg Paul (NHS NATIONAL WAITING TIMES BOARD); Storrar Ian (NATIONAL SERVICES SCOTLAND); Tripney Jamie (NHS FORTH VALLEY); Wilson Alan (NHS FIFE)
Cc: Bisset Lawson (NHS SHETLAND); Powrie, Ian
Subject: Ventilation validation contractors
Date: 28 July 2014 14:52:27

Good afternoon,

The National H&V Advisory Group identified a need for a list of competent specialists in the validation of ventilation systems following variable experiences. Members of SETAG were also asked to put forward the names of any firms of which they had knowledge. Unfortunately no responses were forthcoming and the Ventilation Group decided that they would circulate the names of firms known to them and which had given satisfaction.

These are: (in no particular order)

- H&V Commissioning, 14 Barrmill Road, Galston, Ayrshire KA4 8HH
- Contract Engineering, 8 Livilands Gate, Stirling FK8 2AT
- GBS (Building Services) Ltd., 4 Thornybank, Dalkeith EH22 2NQ
- Commissioning Operation & Training Services Ltd., Unit N20 Clyde Workshops, Glasgow G32 8YL.

It is hoped that this information will be of assistance.

Regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk

From: Machell, Mandy
To: Connelly, Karen
Cc: Kane, Mary Anne
Subject: FW: FM Migration Planning Group
Date: 30 July 2014 15:06:28
Attachments: Estates Frameworks Tracker as at 200614 - IP Edit - EF.xls
Action Plan 180714 Update.doc
FM Migration- Mins 180714 meeting ntes.doc

Karen - Ian has provided his written update for Estates on the minutes.
Can you please have a quick glance over Katharine's notes and confirm whether you are happy that they captured all salient points.

Mary Anne - if Karen is okay with content, are you fine for me to issue them.

Regards

Mandy

From: Powrie, Ian
Sent: 30 July 2014 09:52
To: Machell, Mandy
Subject: FW: FM Migration Planning Group

Mandy

Sorry I had missed Katharine's note to send my response to you, please see below my return dated 24th July.
Let me know if you need any other info?

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Powrie, Ian
Sent: 24 July 2014 12:51
To: Brough, Katharine
Subject: RE: FM Migration Planning Group

Katharine

Please find attached my update as requested, you may recall from the meeting of 20th June that MAK picked up on Item 8A, I assume that ether Billy or Mary Anne will report on this in future with regards to the organisational change progress?

I have also attached the Estates contract procurement programme, can you please load this on the SharePoint for me?

Many thanks

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Brough, Katharine [redacted]
Sent: 18 July 2014 16:42
To: Powrie, Ian; Connelly, Karen
Cc: Machell, Mandy
Subject: FM Migration Planning Group

Ian,
Can you please provide written update on estates actions and if there are any exceptions for Estates report and return to Mandy Machell. It would be helpful if this could be returned for next week to enable notes to be passed to Mary Anne and group for information.

Many thanks for your help.

Katharine

Katharine Brough
NHS Greater Glasgow and Clyde | Facilities Directorate| Southern General Hospital, 1345 Govan Road, Glasgow G51 4TF
[redacted]

Estates Procurement - Support for NSGH

Category	Procurement Route	Start Date	Issue PIN	Develop Strategy	Develop Documents	PQQ (Optional)	PQQ Evaluation	Issue ITT	Tender Return	Tender Evaluation	Post Tender Clarification	Contract Award	10 Day Standstill	Contract Implementation	Notes
			5		20	30	10		40	25	2		10		
NSGH - Automation: AGV/PTS	VEAT	20 June 2014												?	
NSGH - Energy Centre CHP	VEAT	20 June 2014						01 October 2014	26 November 2014	14 January 2015	18 January 2015	18 January 2015	01 February 2015	01 February 2015	
NSGH - Bedhead Services: Nurse Call	VEAT	20 June 2014						14 August 2015	09 October 2015	13 November 2015	17 November 2015	17 November 2015	01 December 2015	01 December 2015	
NSGH - Bedhead Services: Patient Entertainment System	VEAT	20 June 2014						14 August 2015	09 October 2015	13 November 2015	17 November 2015	17 November 2015	01 December 2015	01 December 2015	
NSGH - BMS/ERM	Restricted	20 June 2014												?	
NSGH - High Voltage Switchgear: HV Transformer, HV Switchgear, HV Protection Relays & LV Intake Switch Gear & Protection	Restricted	20 June 2014												?	
NSGH - High Voltage Switchgear: Fixed Wiring Inspection & Testing	Restricted	20 June 2014												?	
NSGH - ETFE Roof	Restricted	20 June 2014												?	
NSGH - Local Cooling Equipment: A/C & Fan Coil Units	Restricted	20 June 2014				26 August 2014	07 October 2014	21 October 2014	26 November 2014	14 January 2015	18 January 2015	18 January 2015	01 February 2015	01 February 2015	
NSGH - Automation: Automatic Doors	Restricted	20 June 2014				26 August 2014	07 October 2014	21 October 2014	26 November 2014	14 January 2015	18 January 2015	18 January 2015	01 February 2015	01 February 2015	
NSGH - Grounds Maintenance - SUDS & Underground Drainage & Intersector Programme	Restricted	20 June 2014				26 August 2014	07 October 2014	21 October 2014	26 November 2014	16 January 2015	20 January 2015	20 January 2015	03 February 2015	01 February 2015	
NSGH - Lifting & Access Equipment: Access Equipment	Restricted	20 June 2014				08 December 2014	02 February 2015	16 February 2015	26 March 2015	13 May 2015	17 May 2015	17 May 2015	01 June 2015	01 June 2015	
NSGH - ERM Metering Management	Quick Quote	20 June 2014		20 June 2014	01 July 2014			01 August 2014	Quick Quotes - suggest that these are staggered from July 2014 - January 2015, subject to IP providing Estates Procurement with specifications in advance & setting enough time aside to evaluate tender returns. Minimal Procurement input required to implement.					01 February 2015	
NSGH - Energy Centre Heating & Domestic Hot Water Generation	Quick Quote	20 June 2014		01 July 2014	01 August 2014			01 September 2014						01 February 2015	
NSGH - Energy Centre Emergency Power Source	Quick Quote	20 June 2014		01 August 2014	01 September 2014			01 October 2014						01 February 2015	
NSGH - Energy Centre Industrial Chiller Plant	Quick Quote	20 June 2014		01 September 2014	01 October 2014			01 November 2014						01 February 2015	
NSGH - Theatres/Trauma Theatre Canopies	Quick Quote	20 June 2014		01 October 2014	01 November 2014			01 December 2014						01 February 2015	
NSGH - MGPS Specialist Pumps/Compressor Plant	Quick Quote	20 June 2014		01 November 2014	01 December 2014			01 January 2015						01 February 2015	
NSGH - Earthing & Lightning Protection Systems	Quick Quote	20 June 2014		2015	2015			2015						01 February 2016	
NSGH - Gas Safe: Inspection & Testing	Quick Quote	20 June 2014		2015	2015			2015						01 February 2016	
NSGH - Water Management Mains Water Filtration Plant	Quick Quote	20 June 2014		Unknown	Unknown			Unknown						Unknown	
NSGH - Fire Protection/Security & DDA Systems (National Framework pending GGC Framework?)	Existing Framework?	20 June 2014												01 February 2015	
NSGH - Lift Maintenance (WoS framework)	Existing Framework?	20 June 2014												?	
NSGH - Water Management (WoS framework?)	Existing Framework?	20 June 2014												?	
NSGH - Theatres/Trauma: Medical Pendants, Operating Lamp Systems, Surgeons Panels & PACs Panels	Not supported by Estates Procurement. Procurement vehicle/s TBC.														
NSGH - Theatres/Trauma: Independent Ventilation Verification															
NSGH - Theatres/Trauma: IPS/UPS															

Meeting held Friday 18th July 2014, 1pm Southern General Hospital				
Agenda Item	**Action Item**	**Timescale**	**Owner**	**Update for August meeting**
5.4	GK to meet with BH/JM to clarify delivery arrangements.	By next meeting	GK	
5.5	MM to confirm Fire Risk Assessment liability should contractors progress with the assessment work.	By next meeting	MM	Clarification provided to Project Team
6	KC/KM to set timescales for security/helipad recruitment process.	By next meeting	KC/JM	
7	MAK/BH/RA/SW to meet to review proposed rotas in preparation for manager final sign off.	By next meeting	MAK/ BH/RA/ SW	
10	Workforce change communication sessions to be mapped by HR.	By next meeting	SW	

Meeting held Friday 20th June 2014, 1pm Southern General Hospital				
Agenda Item	**Action Item**	**Timescale**	**Owner**	**Update 18th July**
5.6	All workstream leads to review SOPs and identify any IT related aspects to PMcG/SD.	Outstanding	ALL	Workstream leads to advise IT
10	Clinical services OTM session had been scheduled for 20th August with invitation to be extended to members of FM Migration group	June	KB	Circulated to group.

Meeting held Friday 4th April 2014, 9am, Hillington				
Agenda Item	**Action Item**	**Timescale**	**Owner**	**Update 18th July**
4a.2	JM to identify storage areas for redundant equipment/ equipment for disposal.	Ongoing July/Aug	JM RS/KC	Three equipment categories identified: 1. Transferring 2. Surplus for disposal 3. Equipment for storage continued use elsewhere Workbooks to be sense checked. Info available end August.

				Options appraisal to be completed end July to retain Yorkhill for storage,
4g.1	Proposed WPM timings to be refined for NSG deliveries.	ongoing	GK/ BH	Meeting held 10th July. All WPM/Pharmacy to be finalised for end August including rotas.
Meeting held Friday 16th May 2014, 9am, Hillington				
Agenda Item	**Action Item**	**Timescale**	**Owner**	**Update 18th July**
4a	MAK and BH to review STO workbooks to sensecheck quality with Lorna Murray.	Carry forward	MAK/BH/LM	Update at next meeting
4b	Patient Movement:	Update at next meeting	DMacd	SLWG convened to review patient equipment with clinical and facilities staff at demitting sites. All detail collated from sites for 18/7/14 including specification and ownership. Initial review meeting scheduled 29th July to review collated data and review in line with NSGH strategy.
5b	ALS session to include Porters and Staff side	Update at next meeting	MC	A multidisciplinary session held 9th July, to inform Domestic & Portering Managers on agile working, hot desking and use of mobile devices. A McCafferty has summary and further dates for sessions to be agreed via MAK. MM requested Fire officers attend session.
5c	SOPs to be reviewed. ALL SOPs to be completed end August.	Update at next meeting	BH/MAK KB	SOPS reviewed and revisions have been agreed. KB to check amendments have been made and uploaded onto SharePoint. SOPs at 18/7/14 are: New SGH Retail Operating Policy New South Glasgow Hospital Service Yard July 14 NSGH Portering Sop July 2014 NSGH Security SOP July 2014 NSGH Waste SOP July 2014
5d.1	Hard FM draft service support contract to be submitted.	Update at next meeting.	IP	Written update to be supplied – IP

5d.2	Additional costs for test equipment to be collated and submitted along with costs for fitting out workshops.	OUTSTANDING	IP	Written update to be supplied – IP
8a	Estates profile: IP to firm up rotas and identify gaps firstly for Supervisors and Estates Managers.	Update at next meeting	IP	Written update to be supplied – IP
8b	All to review and submit bids where appropriate entitled New South Enabling compromising NSG campus.	OUTSTANDING	ALL	CLOSED
8c	Telecoms update on major incident plans	July	KMcS	KMcS raised with ECMS and NSGH arrangements to be reviewed.
8d	KC to confirm proposals for Cardiac arrest team at NSG	Update at next meeting	KC	KMcS met with resus committee. 2 clinical teams under consideration for NSGH plus team for demitting site. Similar process to be followed for Fire, Violence Alert and Security teams.
10b	SW to pass FAQ for staff information sessions	OUTSTANDING	SW	Information to be circulated to Group 21/7/14

FACILITIES DIRECTORATE
NSGH FM MIGRATION PLANNING GROUP
Friday 18th July 2014, 1pm, Boardroom, Hillington Contact Centre

---

Present

Karen Connelly [Chair]	Workstream Lead- FM Commissioning
Rob Anderson	Head of Finance
Pat McGorry	Workstream Lead - IT
Gary Kean	Workstream Lead - Supplies
Mandy Machell	Workstream Lead - Fire Safety
Jimmy Magee	Workstream Lead – Portering/Security, Helipad, Waste, AGV
Lorna Murray	Facilities Corporate Manager
David Macdonald	Site Facilities Manager
Steven Drummond	IT
Stephen Wallace	Head of HR Facilities
Margaret Coleman	Head of OD Facilities
Karen Mcsweeney	Workstream Lead – Telecoms –joined meeting at 2.
Ian Powrie	Workstream Lead – Hard FM –joined meeting at 5.
Scott Young	Workstream Lead – Travel, Laundry, Helpdesk, Cashiers –joined meeting at 4.

In Attendance
Katharine Brough Admin [*minutes*]

	ITEM	ACTION
1.	**Apologies** were received from MA Kane, W Hunter, R Stewart, A Mccafferty	
2.	**Matters Arising** All matters arising are covered by the agenda	
3.	**Notes of the last Meeting** The draft Minutes of the last meeting held on the 20th June 2014 were reviewed for accuracy. Amendments noted for 7. Finance Update page 5 £1million savings were hard FM with Soft FM target not yet agreed. Telecoms was **assumed** as cost neutral. RA had **spoken** with SY and this work is **being** completed.	
3.i	**Action Plan 160514** Action plan was reviewed and updated.	
4	**Project Update** KC informed group that project was on budget and on programme. At 21st July there was 27 weeks to building handover. Thereafter the 12 week commissioning period would commence with greater activity to be undertaken / incorporated. Detail of responsibilities was currently being worked out for resourcing etc. SLWG set up for Catering. KC updated group on demolition proposal of Catering dept. to enable multi storey car park. Patient catering service and retail service would move into	

	NSGH building earlier than first thought. In addition the Aroma cafe in Neuro would be closed during renovation works. KC noted this proposal would entail staff coming into 1st floor restaurant before building is operational. Logistics group to be established. 2 meetings held to date next 28th July. David Stewart chair with Directors attending. Version 8 migration planning document was under review.	
5	**Workstream Group Leads: Project plan / issues log update**	
5.1	**Laundry/ Travel / Cashiers/ Helpdesk Update:** SY noted no exceptions Car park induction. A MacPherson had revised her view and was comfortable with proposal if MAK is in agreement. Transport featured as part of FAQ. Staff Advisory Transport Group has HR staffside reps rather than management. SY had noted to HR that tt would be useful to have HR management representation. Car parking permits for SGH/VIC demitting sites was discussed. SY had agreed process goes ahead with validation expiry of March 2015. This had been discussed with M McCulloch, S Johnstone, F McGuire and Lesley Flynn. Risk of GGH staff having permit to August 2015 discussed and view taken that GGH staff affected by move to NSGH would be nominal and not within current permit holder group.	
5.2	**Portering/Security –** no exceptions/ slippage**.**	
5.3	**Procurement**: RS had submitted apologies. Procurement report to be uploaded to SharePoint site for group information. KC updated group on Removal tender. Site visits completed this week for interested companies. No reports of concerns arising for access/egress. SGH lift access was accepted as poor for movement of beds etc. Tender due back middle August. RA noted previous meeting minute mentioned tender costs were not covered in project budget, whereas RS had stated costs were to be borne from project budget. KC reported that whilst no sum had been set aside in project budget. It was her understanding it will be found from project budget. RA noted priority to define overall cost. KC accepted level of detail required to inform bids was not yet available	
5.4	**Supplies**: No exceptions. Ward storage group progressing to identify stock levels, Follow up meeting Fri 25th July with Oct/Nov deadline to finalise. GK attended site visit. Comment that paediatrics had infection control issues. GK noted need for concerns on capacity need to be quantified and explained. A procurement meeting with desktop delivery supplier spectrum to be held to clarify delivery arrangements at SGH/NSGH. GK to schedule with B Hunter and JMagee. Suggested route into Hillington or restriction to one delivery day for stationery. SY front doors not an option. J Magee noted use of service yard.	GK
5.5	**Fire**: MM reported tasks due to breach from project plan arising from paper submitted in Feb 2014.	

	Implications for FRA and any required tendering has been raised. MM noted distinct benefits of in house. D Louden had raised concerns relating to FRA liabilities for governance should contractors progress this work. MM to confirm liability in this regard. MM noted building strategy need for wardens throughout the stack and resource requirements. MM scoped options using catering staff level 1, use of flash cards. Ground / 1 involved 40 warden requirement. Recommendation all facilities staff to be trained. MM had submitted options proposal whereby ward staff would act as Fire Alert Team wardens. Fire alert teams would be required for communal areas. MM expressed concern on efficacy of Fire Alert Teams in current configuration due to compartmentalisation of new building, travel time to reach higher levels and resource implication. Discussion occurred on resetting fire panels. MM noted distribution of Fire extinguisher placement had a resource implication. Fire officers to be considered to attend estates training. FRA activity on demitting sites. Noted need for HR to speak to Fire officers. Workplans have been signed off for last year at sectors.	MM/KC
5.6	**IT**: SD noted awareness meetings continuing Application Project plan uploaded onto SharePoint. Room data analysis underway for interface testing (DMT & FM First) Monklands visit Review of Adult Patient Entertainment scoring due 21st July. IT also had been involved in Endoscopy washer/dryers tender which was on target end August.	
5.7	**Telecoms** – No exceptions	
5.8	**Estates:** With 6 Months to go till formal handover, IP is seeking the production of an output report from the migration workbooks regarding transfer equipment installation requirements, to allow for the development of a supporting programme for the disconnection from services of transfer equipment & re-install at the final destination. This has been raised at the equipment group. IP has raised concerns with West of Scotland procurement team regarding the capability of limited competition 3rd party service providers within the National Framework contract to support the lift lobby vision server control interface with the Swisslog AGV system, recognising that this is a mission critical single point of failure in the delivery of AGV services to the building. WIP regarding establishing: • West of Scotland procurement, Lift Maintenance framework, participants, scope Lobby Vision support capabilities? Required for adoption of framework in year 3. • Establish Brookfield contractual lift service provision\AGV interface maintenance protocol during 2 year warranty period? Enquiry to Lift Manufacturer regarding current 3rd party providers lobby	

	vision support capability (training and software access rights)	
6	**HR Update**: SW confirmed Estates process on target in terms of programme. 9/10 staff remaining at WIG. 70 staff to go through selection/ 1-1 meetings. Matching process scheduled for 28th July to be confirmed. For all other FM services SW currently reviewing current and proposed establishment figures. Staffside meetings ongoing. PVG checks for paediatric an issue for staff working across 2 sites. HR to pick up. Discussion occurred on need /options redeploy those who do not attain PVG. KC raised query in relation to Helipad response/ Security team. HR to consider how matching apply to these posts for such new, specialised roles. Recruitment process to reflect this. KC/JM need to set timescales. SW stressed importance of timings Helipad to be operational as soon as A&E is in situ. [end April staff to be operational incl. training / test flights for CAA approval.] KC advised Occ Health involved due to criteria of staff and fitness levels required.	KC/JM
7	**Finance Update** RA updated group commending DMacd on work collating decommissioning figures. Boards assumption want to keep £8-10m savings from 203/14 to go into next financial year with option to draw down from it. RA noted need for managers to initiate further discussions should they intend to spend money this year. This was required to build case for board approval. RA accepted full details of double running to be clarified and advised MAK/BH/RA/SW would meet to review proposed rotas with managers to sign off final version. No update on levels of further savings.	**MAK/BH/ RA/SW**
8	**Decommissioning** DMacdonald had completed overview of non pay and pay. Mgt Campbell liaising with Scottish Futures Trust for options to offloading assets. First draft completed for demitting sites equipment. Domestic/Portering/Estates/ Security resource identified. Discussion occurred on Macquaker/ Queens Park house and plan to keep these buildings. Move switch at WIG? Proposal to retain Yorkhill discussed and Telecoms benefit from no need to relocate switch. KMcS question on option for Yorkhill. Out-patients at Yorkhill and Admin staff for Queen Mums Discussion occurred on residuals including asbestos and fabric at Yorkhill tower on different levels. It was noted residencies do not have wiring.	
9	**Risk Register** Register was discussed. No new risks identified.	

10	**Communication** Workforce change communication sessions to be mapped out by HR.	**SW**
11	**Migration Executive Group** Minutes from last meeting had been circulated to the group.	
	AOCB KMcSweeney updated group that telecoms had been involved in moving Virttu Biologics, private company from Neuro to Labs bldg, WIG as temporary measure. KMcS advised GGC had need to observe 6 month notice as agreed with R Calderwood. Details to be passed to DMacdonald to progress. P Fairie was the University Contact. RA noted capital planning had requested details on leases, including retail, WRVS. No further business reported.	
	Date of Next Meeting: 15th August 2014 at 1.00pm, within Boardroom, Contact Centre, Hillington Apologies noted for L Murray	

From: Loudon, David
To: Walsh, Tom
Cc: McNamee, Sandra; McCluskey, Fiona
Subject: RE: Infection Control input to new SGH
Date: 30 July 2014 11:41:00

Tom,

Thanks for your message. The project team and the IPCT have successfully engaged throughout the project and are actively involved in the completion of the project. We very much appreciate the support provided by IPCT.

Fiona met with Sandra McNamee on the 22nd July 2014 to discuss the Infection Control input to the Project. The ongoing planned zone checks and any snagging issues are being taken forward by the team at the SGH. Sandra has offered Stefan Morton the Hand Hygiene Co-ordinator to assist Fiona with the Dispenser Strategy. To ensure that the Infection Control team are aware of any future or emerging issues Fiona has asked all Project Team members to ensure that she is informed when /if any infection control issues arise. She will then pass the query on to Sandra so that she can field the relevant Infection Control staff member to assist.

I should also note that the IPCT was consulted during the design stages of the project and I am not anticipating any changes to the design at this stage.

I would anticipate that Sandra with support from Fiona will provide regular update reports to the ICC if required.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: Walsh, Tom
Sent: 29 July 2014 11:32
To: Loudon, David
Cc: McNamee, Sandra
Subject: Infection Control input to new SGH

Dear David

The commissioning of the new SGH was discussed at the Board Infection Control Committee yesterday. The NHSGGC Infection Prevention and Control Team (IPCT) have been, and are, engaged in a number of groups advising on aspects of the new build through liaison between Fiona McCluskey and our Assistant Director of Nursing, Sandra McNamee.

The Infection Control Committee were keen that the IPCT are appropriately involved in the on-going and future commissioning of the new facilities, and asked that I contact you to offer any support required.

Happy to discuss if that would be helpful.

Kind regards

Tom

Tom Walsh
Board Infection Control Manager
NHSGGC

From:	Frew, Shiona
To:	Frew, Shiona; Hirst, Allyson; Carnie, Frank; Connelly, Karen; Craig, Carol; "David Hall"; Forsyth, Graham; Gallacher, Stephen; Forsyth, Graham; Greig, Mark; Griffin, Heather; Hirst, Allyson; Loudon, David; Macleod, Mairi; McAllister, Mark; McCluskey, Fiona; McColl, Eleanor; McDerment, Hugh; McGarrity, John; McNicholl, Sharon; Moir, Peter; Powrie, Ian; Smith, Alastair; Stewart, Robert; Wrath, Frances; McNicholl, Sharon
Subject:	PROJECT TEAM MEETING - FRIDAY 25TH JULY 2014 - Draft Notes
Date:	30 July 2014 16:14:43
Attachments:	Notes of Meeting of 25th July 2014.doc

Dear All

Please find attached a copy of the draft notes from the Project Team meeting held on Friday 25th July 2014. Should you wish there to be any amendments then please let me know.

Kind regards

Shiona

PROJECT TEAM MEETING: 25th July 2014
ACTION NOTE

Present:	Peter Moir (PM)	Karen Connelly (KC)	Frank Carnie (FC)	Eleanor McColl (EM)
Mark Greig (MG)	David Hall (DH)	Hugh McDerment (HMc)	Robert Stewart (RS)	Ian Powrie (IP)
Alastair Smith (AS)	Graham Forsyth (GF)	Heather Griffin (HG)	Frances Wrath (FW)	John McGarrity (JM)
Sharon McNicholl (SM)	Shiona Frew (Notes) (SF)			
Apologies:	David Loudon (DL)	Mairi Macleod (MM)	Karen McSweeney (KMcS)	Fiona McCluskey (FM)
Stephen Gallagher (SG)	Mark McAllister (MMc)	Allyson Hirst (AH)		

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Previous meeting	Accepted as an accurate record	-	-
2.	Matters Arising			
	Equipment List	It was noted that FW was to forward the AV costs to RS. FW advised that she had received the equipment list from BMCL for checking. PM advised that he had asked BMCL to provide a summary so that this can be appended to the PMI to be issued to BMCL confirming the Equipment List. FW noted that AKerr was currently on annual leave.	Provide AV costs to RS Confirm Equipment list with AK	FW FW
	Telecoms – Copper Lines	DH advised that he was awaiting information from DP (BMCL) regarding the implications of increasing the number of lines by circa 50% to what was originally in the ERs, noting that the number of copper lines had already been reduced from what had been in the ERs. DH noted that it was a potential increase of copper lines from 300 to 900. KC noted that it was important to understand the need for the increase. EMc noted that there was also a need to understand if there are any implications on data point and power requirements - there may not be enough points for the back-up lines. DH reported that when the ER's had been written the number of copper lines had been identified on the basis of a nominal percentage of the anticipated number of telephone points. MG suggested that the number of copper lines had been based on a nominal % of the number of data points and that the nominal % of 6000 had been the calculation used for the Labs Facility and not the hospitals. DH agreed to check back the process for identifying the number of copper lines however reiterated that information regarding implications/containment was awaited from BMCL. DH noted that additional frames for the lines would be required. PM suggested that a meeting to discuss the need for additional copper lines.	Liaise with DPike re implication of increased number of copper lines	DH
3.	Adult and Children's			
	General	HG advised that the focus of activities had been on reviewing the wayfinding RDD and carrying out room checks. HG noted that a decrease in the quality had been observed during the room checks and that some areas programmed to be checked are not complete enough/suitable for checking. DH asked for clarity about the decrease in quality and HG provided examples of poor quality being identified on site i.e. paintwork. FMc raised concern about the number of Project Team members carrying out the room checking suggesting that more people to carry out the room checking was required.	-	-

Item No	Item	Discussion/Information	Action	Action by Whom
3.	Adult and Children's	HG reported that staff tours were ongoing and most recently tours had been given to the Acute Services Strategy Board, Theatres reps, Labs Reps to look at the blood fridge rooms and later that day the Out-patient reps would be onsite for a tour. HG reported that the Labs reps were going to organise for a company to come in to look at the blood fridge rooms. RS reported that Procurement had received Capital Funding bids earlier that day from Diagnostics directorate for blood fridges vending technology. JMc noted that there was a desire in the service for an integrated system. RS reported that the timing for a decision for Capital funding would not be for another 4-6 weeks and there was no guarantee that the Diagnostics Directorate would receive the funding they required. JMc enquired if the managed service was to be revenue funded. RS advised that he would check what is on the list for blood fridges and would advise on the indicative costs. DH advised that the arrival square works had been commenced so team members should expect that there will be disruption to the front of the building. PM noted that the NCH canopy was anticipated to be lifted into place later that day.	Check list for blood fridges -	RS -
4.	Equipment	RS advised that the progress update report had been circulated in advance of the meeting. The key items to note were as follows: • Group 2 procurement – the programme of providing group 2 equipment is nearing completion with currently 92.5% requests called off and 7.5% remaining to be called off. FW noted that CClarke has some queries and FW would liaise with CCLarke directly to resolve the queries. • Group 3 – continues to be updated and reviewed with circa £12m identified thus far as transfer equipment. There is circa 12,000 lines of the equipment list to be reviewed. • AGV Carts – all order been placed for the carts, the waste and decontamination prototype carts have been received and anticipated delivery dates for the food and linen cart prototypes have been identified. Responses to requests for information by Swisslog continue to be slow. • AV tender – continues to be work in progress as per project plan and dialogue ongoing with Kathy McFall. The ITT for the Teaching & Learning Centre for AV has been issued. • Decontamination – procurement process remains on track • The submission of capital funding bids closes later that day. • The Senior Buyer who had been on sick leave has a scheduled date for returning back to work. • The Project Manager to replace RS has been identified and has a date agreed for commencing on the project. FM advised that the dispensers information is likely to be ready in August and not July as previously anticipated. JMcG enquired if the screens for the AV rooms had been identified. FW noted that it was only the brackets for the screens that was being fitted as this was a BMCL installation. PM advised that BMCL are finding it difficult to link Multi-tone with Swisslog. The value of the multi-tone contract is circa £10k. BMCL have enquired if the NHS will instruct the contract with multi-tone. PM will discuss this with RS w/c 28/07/2014. RS advised that any triangular relationship can be problematic. KC noted that it would be better to be a BMCL contract as it for BMCL to provide the multitone to Swisslog and there may be contractual implications re warranties, etc.	- - - - - - - - - - - Discuss multi-tone contracting with RS	- - - - - - - - - - - PM

Item No	Item	Discussion/Information	Action	Action by Whom
4.	Equipment (cont'd)	FW advised that meetings with Group 5 suppliers were ongoing and meetings with the final 2 suppliers had been scheduled for the beginning of August. BMCL are discussing the draft programme with their sub-contractors. FW noted that the DQ is work in progress and sign-off is anticipated to be August 2014. FW reported that she intended to liaise with JSlater (HFS) to discuss the washer cabinet layouts as the tenders did not accord with the actual layout on site. DH advised that he had fedback to JSlater that the cabinet locations on site are fixed. FW suggested that HFS had not stressed to the potential suppliers that the layouts are fixed and that any costs to change the layout would need to be borne by the suppliers. FW noted that some of the suppliers were suggesting less washers i.e. 6 compared to 10. RS noted that JSlater would be providing feedback regarding the machines and their capabilities. JSlater has proposed that the suppliers be offered a site visit in order to highlight the locations/fixed layout. DH suggested that the suppliers may not have understood what is fixed in the room.	- - Liaise with JSlater re locations being fixed	- - FW
5.	Migration	FMc advised that the Clinical Migration Logistics Group meetings had commenced and have met twice. The focus of the group was on agreeing the programme dates for the moves and it was hoped this would be achieved at the next meeting of the group on 28/07/2014. Once agreement of the move dates is achieved then it will be possible to progress the detail of the moves and other migration activities. The migration teams were still awaiting the breakdown of the 'ologies'.	-	-
6.	FM	KC advised that the FM Migration Planning Group had last met on 18th July 2014. All the programmed work was being progressed. The detail of the catering dept and retail fit-out was being progressed. PM advised that he was starting to look at the office accommodation requirements and potential solutions for post handover. It was suspected that the team would relocate into the main build as soon as possible at building handover for the commissioning period noting that some may go back to the office accommodation where they will be based. PM was meeting with BMCL later that day to discuss the Stage 3a works.	- -	- -
7.	HI&T	MG advised that : • the final hub room connection to the adult computer room made had been made and the resilience back to the NCH would be completed in due course • Network designed and addresses established for the AGVs and NCH Patient Entertainment • FC is monitoring the temperature levels in the hub rooms as some are getting close to needing to be shut down. • MG had been interviewing and 3 new starts have been recruited – 2 will support the migration & commissioning planning and 1 will support other enabling projects such as the new technologies. • Detailed equipment plan on a departmental basis being worked up for approval at the next IT OTM Group • The terms of reference for shared folder recommendations paper has been prepared. The focus of this work would be on Adult ED, Generic Wards and Diagnostics in the first instance.	- - - - - -	- - - - - -

Item No	Item	Discussion/Information	Action	Action by Whom
7.	HI&T (cont'd)	• The terms of reference for the Paperlite Recommendations Paper had been prepared i.e. how people will work in the new office block. .	-	-
		FC reported that he had received an email earlier that morning confirming that the Nurse Call is now working on the network.	-	-
		PM enquired how close the temperature in the hub rooms was becoming against the maximum temperature allowed and FC advised in some instances it was only 1-2 degrees lower than the maximum temperature. DH enquired if there are data loggers on the hubrooms and FC advised that not all hub rooms have data loggers and he was interrogating the switches.	-	-
		EMc noted that the Director for IT of NHS Orkney was scheduled to visit NHS GG&C w/c 28/07/2014.	-	-
8.	Campus Logistics	It was noted that there are no campus logistics issues to report.	-	-
		HMc advised that the first stage of the duct survey for IT fibres had been completed and the results awaited. GF requested that HMc liaise with GThomson once the survey report is received re connections to service the car park, etc.	Liaise with GT re survey results	HMc
9.	Teaching and Learning	GF advised that the Teaching and Learning project:		
		• Continues to be on programme	-	-
		• Continues to be on budget	-	-
		• The external cladding, blockwork, internally partitions and 1st fix M&E are being progressed.	-	-
		• The topping out ceremony had taken place on 24/07/2014.	-	-
		• The IT and AV is progressing well	-	-
		• Discussions re external tenants to the University to be progressed, additional external fibre link will be required. University progressing this matter however GF was meeting with the University in order to get an understanding of any works that needs to be undertaken.	-	-
10.	Offices	GF advised that the Teaching and Learning project:		
		• Continues to be on programme however the programme is under review and the completion date may be brought forward. It was noted that the office completion being earlier would assist the clinical migration. KC suggested that there was lots of benefits to get early handover of the office block.	-	-
		• Continues to be on budget	-	-
		• Cladding, internal partitioning and 1st fix M&E continue to be progressed	-	-
		• The 1st mock-up at the Queen Mother's Hospital has been established. 2nd mock-up to be set-up by 1st August 2014. PM suggested that dummy equipment should be used to set the desk up as working desk.	-	-

Item No	Item	Discussion/Information	Action	Action by Whom
11.	Estates	IP provided the following update in relation to the estates matters: • PPC – 28 day notification period will complete on 4th August 2014. SEPA then have 7 days provided there are no representations made to award the permit however have advised that they propose to award the permit in 2-3 days. There is then a 14 day notification period regarding commissioning. BMCL have prepared a commissioning programme for SEPA. DH advised that he had spoken to BMCL who had advised that they proposed to provide a plan with the commissioning up to December identified. IP noted that it is a condition of the SEPA permit that should any tests fails then the commissioning needs to stop immediately. BMCL will need to carry out more pre-commissioning checks. • Psuedonomas – IP had a meeting with Infection Control rep to do risk assessment which was cancelled. FMc is now taking forward liaison with Infection Control for this work. Draft risk assessment had been prepared in conjunction with John Green and the prepared document had been forwarded to John Green and feedback awaited. The way forward regarding the Horne taps has been agreed however the way forward re the en-suite taps is more difficult to have a managed process in place. • Capital Plan Allocation - £1.2m has been allocated to integrate the retained estate to the Scada system which requires a lot of LV panel and generator modifications. IP has a meeting scheduled with Wallace Whittle and FES to bring Wallace Whittle up to date with proposals. Thereafter, a feasibility study would be undertaken. It was requested that AS or HMc attends this meeting with IP in order to identify any commonality of survey works with works HMc will need to get carried out. • HMc advised that AS was working up a proposal to put in a ring main unit to power up the existing car park which was currently powered off the sub-station which would become redundant. IP requested that he be provided with a copy of the proposal. • HMc advised that a catch-up re the CMB would be required as an understanding of the date it will become redundant, etc, is required.	- - Attend meeting with IP Provide copy of ring main proposal -	- - HMc or AS IP -
12.	Car Park 1	HMc advised that Car Park 1 is more or less completed. HMc requested that HMc liaises with PMcGuinness regarding the NHS carrying out an inspection now and being able to identify any issues now rather than it becoming a snagging item if inspection takes place post handover. DH enquired if HMc knew how BMCL proposed to approach Building Control to obtain a completion certificate for the car park suggesting that the car park may not have an acceptable fire escape as yet.	Liaise with PMc re early NHS inspection of the car park	HMc
13.	AOCB			
	ICE	PM advised that George Osborne had announced on 21st July 2014 that there would be additional money available to the University of Glasgow to build an Imaging Centre of Excellence. It was proposed that this would be a new build to be built on the top of the current round house site and would be a 3 storey building. The centre would have a 7T MRI which would be used for both research and clinical purposes.	-	-
	BMCL PD	PM advised that Ross Ballingall will be standing in as BMCL Project Director until the end of the project. The funeral arrangements for Mike Sharples are not known at this time.	-	-
	Date and Time of Next meeting The next meeting of the Project Team will take place on Friday, 1st August 2014 at 11am.		For noting	All

From:	Donnelly, Frank
To:	Kane, Mary Anne
Cc:	McIntyre, Hazel
Subject:	FW: Formula - Stat allocations - Water Safety
Date:	01 August 2014 11:19:48
Attachments:	NPR No. 88 GRI Temperature Monitoring Sentinel Water Outlets.doc NPR No. 126 IRH Water Safety Remedial Works.doc NPR No. 121 RAH Water Safety Remedial Works.doc NPR No. 23 VOL Legionella Precautions.doc NPR No. 5 RAH Capital Bids Statutory 2014-15.xls NPR No. 6 IRH Capital Bids Statutory 2014-15.xls NPR No. 7 Hillingon Laundry Capital Bids Statutory 2014-15.xls

Mary Anne
Further to Hazel's message yesterday regarding Statutory Works allocations please find attached the New Project Request submissions received in respect of Water Safety Works for your reference.
Thanks
Frank

Frank Donnelly
NHS Greater Glasgow and Clyde
Capital Planning Department
3rd Floor
Administration Building
Gartnavel Royal Hospital
1055 Great Western Road
Glasgow G12 0XH
[redacted]

From: McIntyre, Hazel
Sent: 31 July 2014 16:16
To: Kane, Mary Anne; Machell, Mandy; Boyd, Moira; Young, Scott
Cc: McGrory, Michael; Curran, Anthony; McCubbin, Alan
Subject: Formula - Stat allocations

All,
We have approval to put the sums listed below into the Capital plan for Statutory works.

Mary-Anne has advised that these budgets should be monitored and distributed by the named person below so that works are prioritised against the audits and other information you have to direct the spend. Under separate cover we will sent to each of you the bids we have received against each of these types for your reference only.

My Capital Accountant colleagues have advised that they need a location for works before issuing a Finance Code. This is also important so that we can follow up after completion and ensure the EAMES database is updated.
Can you therefore prepare a list of projects including the location and spend against each and

forward to myself and Mary-Anne. These should all be works that are able to be completed within the Financial Year.

Moira,
The location is not a specified requirement against the asbestos spend but it would be helpful if we could still list any works that are in specific locations for remedial works and not surveys.

Asbestos	Moira Boyd	450
DDA	Scott Young	40
Fire Safety	Mandy Machell	500
Health and Safety	Scott Young	350
Water Safety	Mary Anne Kane	400
Security	Mary Anne Kane	50

Should any of this be unclear please do let me know.
Regards, Hazel

Hazel McIntyre
General Manager - Capital Planning
[redacted]

NHSGG&C Capital Planning
Admin Block, Gartnavel Royal Hospital
1055 Great Western Road, Glasgow, G12 0XH

NHS
Greater Glasgow and Clyde

CAPITAL PLANNING

Capital Planning
NEW PROJECT REQUEST

For

GRI – Temperature Monitoring Sentinel Water Outlets

FACILITIES/ESTATES

29/05/2014

Attachments:

List attachments to documents if any i.e. Project Organogram, Cost breakdown, Background and Options Paper

New Project Request Revisions Tracker:

Revision No	*V1*
Revision Date	*Enter date*
Revised By:	*Enter name*
Summary of changes:	
Enter description of changes	

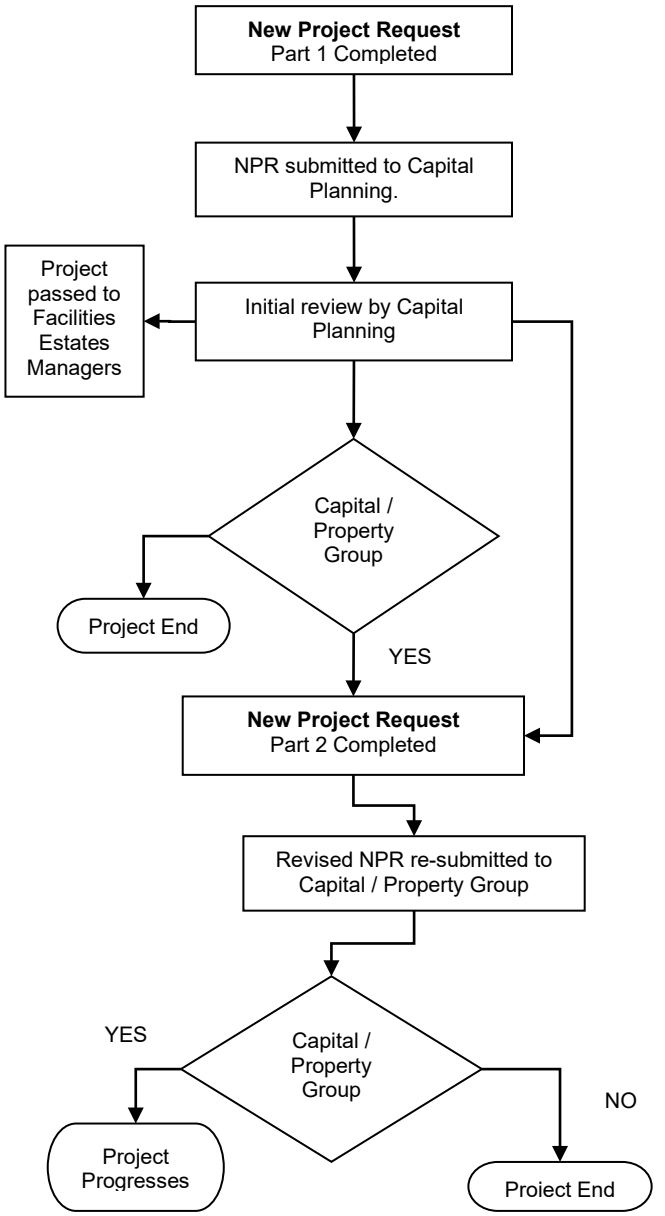
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

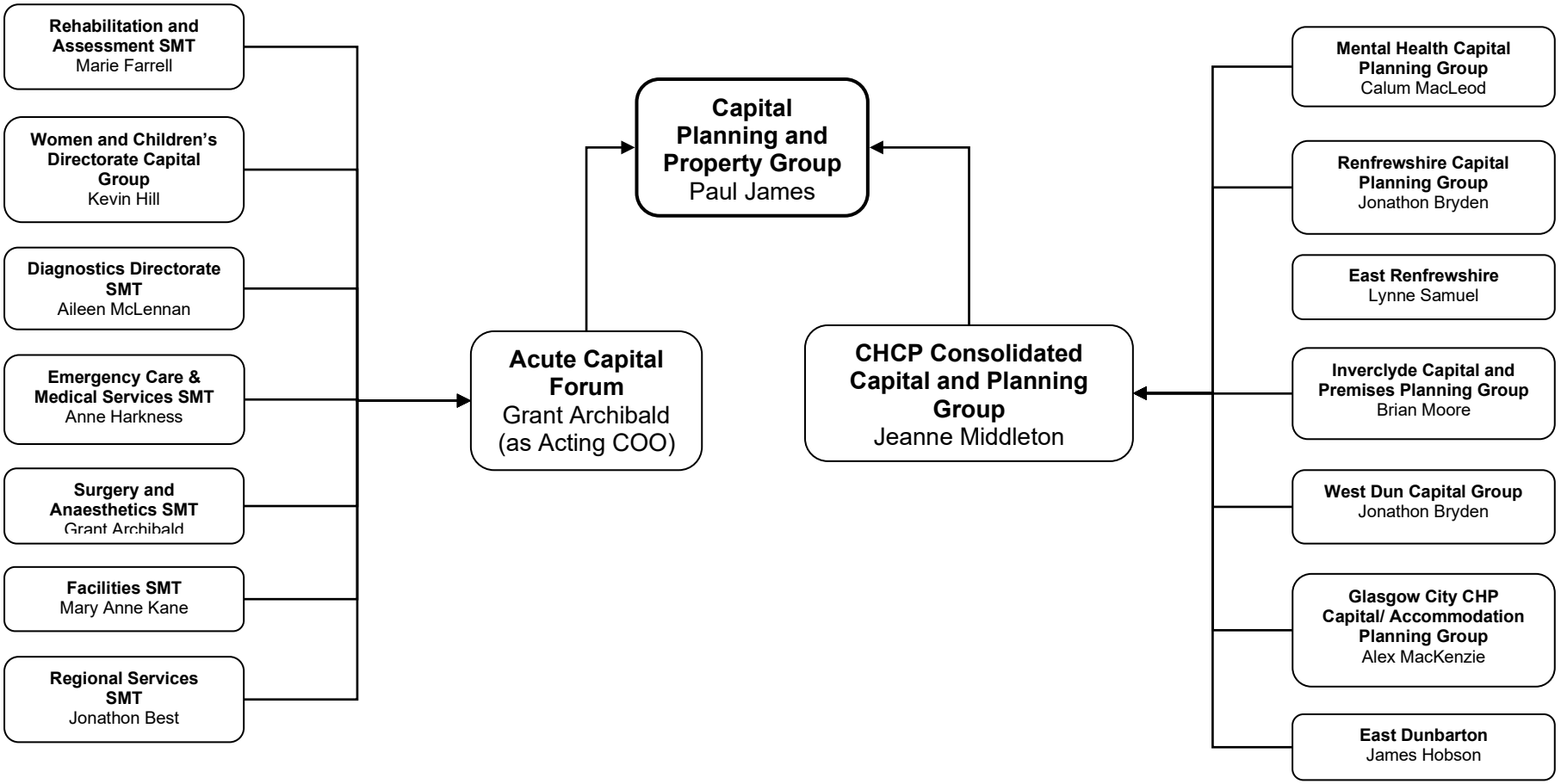
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

PART 1:
This part to be completed by the service

PROPOSED PROJECT PARTICULARS

Project Description *Enter a brief project description including site location.*
Installation of Temperature Monitoring to Water Sentinel Outlets – Whole Site
Directorate or Partnership Sector *Enter Acute Directorate or Partnership*
Acute
Project Sponsor *Enter name, role and contact details of responsible person who is making request and who will be the lead service contact for the project.*
Tom Fulton
Project Owner *Enter name, role and contact details of line manager who supports the request and will present the project for decisions at governance boards. This should be a General Manager or equal .*
Alistair Maclean
Project Objectives *Enter description of objectives for the service provision to be met by the project.*
Legionella Control
Service Outcome (strategic fit & benefits) *Enter supporting narrative of strategic benefits.*
Reduction of labour requirements to physically collect information
Related Strategies and Policies *Enter*
SCART This request will be forwarded to the EAMS Administrator for inclusion in the Register
Stakeholders *Enter known stakeholders to be consulted during the project process.*
Project Risks *Enter narrative of any identified project risks including where assumptions have been made that are not yet confirmed.*
Access
Identified Project Constraints and Exclusions *i.e. the service delivery target date by which project work requires to be complete, constraints on access to start, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects*
Asbestos survey required

Anticipated Revenue Implications *To be completed by the service.*	
Recurring	
Non-recurring	
Equipment Cost	
IT Cost	
Investment Period / Financial Year	

Completed by:	**Tom Fulton**
Date	**30/05/14**

PART 2

This part will be completed by Capital Planning or Estates.

Estimated Project Timeframe	
Design and Procurement	6 weeks
Construction	6 weeks
Commissioning	2 weeks
Total Anticipated Period	14 weeks

Identified Project Constraints and Exclusions *i.e. constraints on access to start, any known asbestos issues, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects.*

Estimated Capital Costs	
Approximate project cost inclusive of VAT and fees.	£120K
Comments *Include narrative of any particular inclusions or exclusions.*	

Completed by:	Tom Fulton
Date	30/05/14

Summary of Approvals		
Capital Planning Group *Tick one only*	Corporate Capital Planning and Property Group	
	Acute Capital Forum	
	CH(C)P Consolidated Capital Planning Group	
	Mental Health (Inpatient) Capital Planning Group	
	Glasgow City CHP Capital / Accommodation Planning Group (inc. South Lanarkshire pending completion of boundary changes)	
	East Dunbartonshire	
	West Dunbartonshire	
	Inverclyde	
	East Renfrewshire	
	Renfrewshire	

New Project Request Approved	YES	
	NO	
Comments (relative to approval / non-approval) *Insert comments relative to approval / non-approval, date of meeting and attach copy of minutes.*		
Date		

NHS Greater Glasgow and Clyde

CAPITAL PLANNING

Capital Planning
NEW PROJECT REQUEST

For

IRH – Remedial Works Associated with Water Safety

Acute Directorship

1/6/2014

Attachments:

List attachments to documents if any i.e. Project Organogram, Cost breakdown, Background and Options Paper

New Project Request Revisions Tracker:

Revision No	*V1*
Revision Date	
Revised By:	
Summary of changes:	
Enter description of changes	

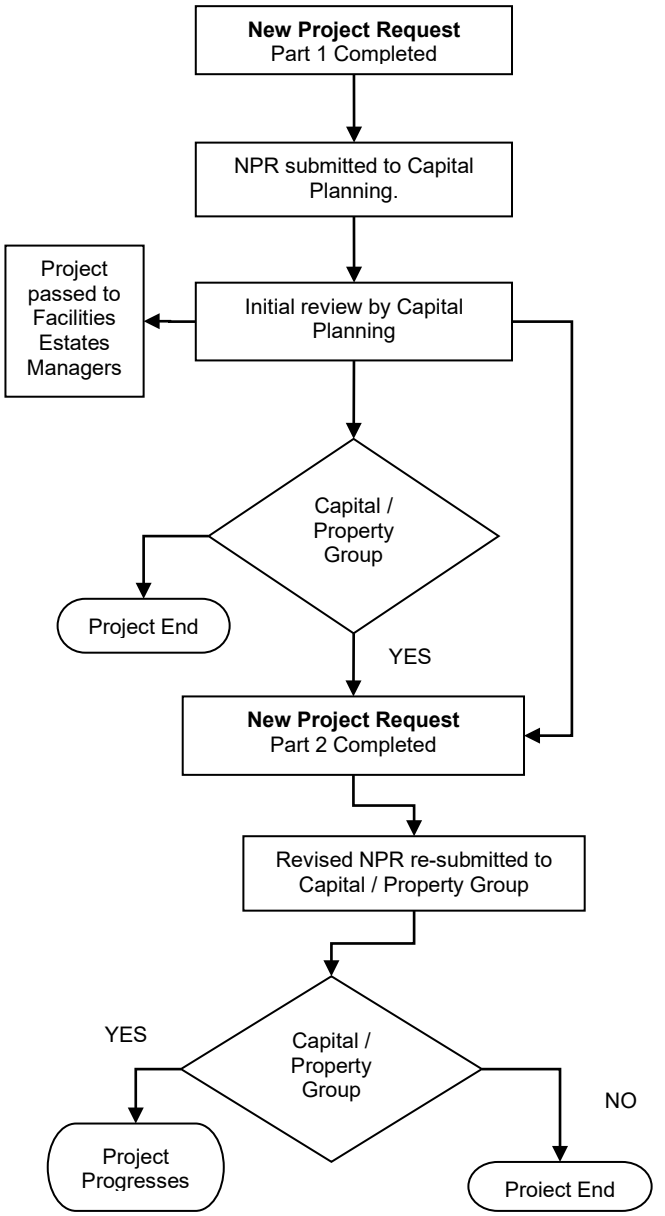
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

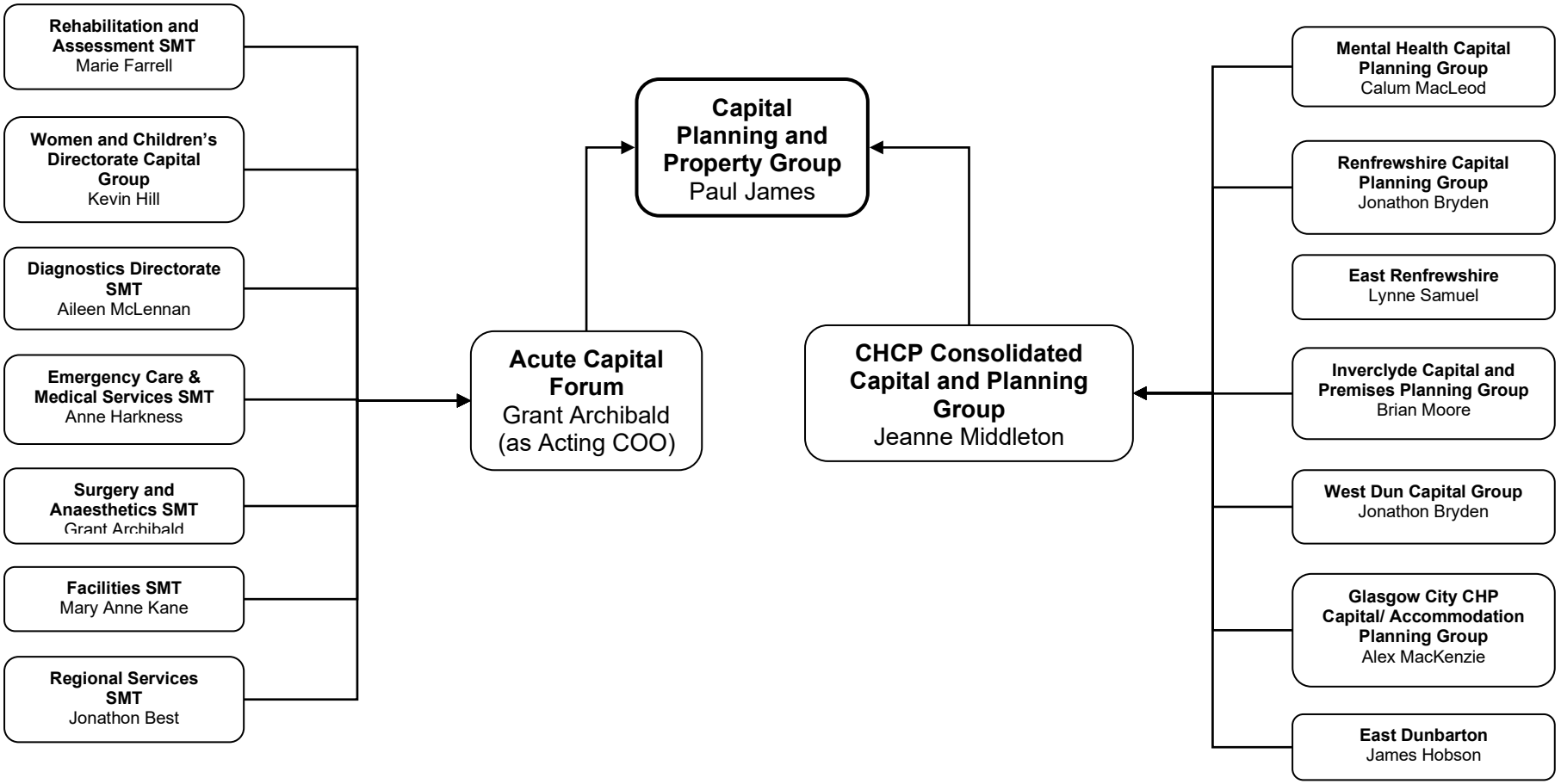
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

PART 1:
This part to be completed by the service

PROPOSED PROJECT PARTICULARS

Project Description
Enter a brief project description including site location.

Remedial Works associated with Water Safety (Legionella, Pseudemonas)

Directorate or Partnership Sector
Enter Acute Directorate or Partnership

Acute Directorate

Project Sponsor
Enter name, role and contact details of responsible person who is making request and who will be the lead service contact for the project.

Alan Gallacher – Sector Estates Manager (Clyde) and NHSGG&C Energy & Carbon Lead

Project Owner
Enter name, role and contact details of line manager who supports the request and will present the project for decisions at governance boards. This should be a General Manager or equal .

Mary-Anne Kane – Interim Director of facilities

Project Objectives
Enter description of objectives for the service provision to be met by the project.

- To manage the Water Safety within the IRH
- To address the areas identified within the EAMs as a 'high risk'
- To address all current H&S legislation around Water Safety
- To satisfy the requirements of the HSE around Legionella and Pseudemonas.

Service Outcome (strategic fit & benefits)
Enter supporting narrative of strategic benefits.

- **Legislative** – This will address any issues identified by the HSE around Legionella and Pseudemonas (ie ACoP L8, SGTM04-01, SBN274)
- **Reputational** – the finding of Legionella & Pseudemonas within NHSGG&C is currently a major issue which needs addressed by either managing, or removal.

.

Related Strategies and Policies

- **NHSGG&C Water Management Plan** – the removal of high risk areas within the water Management Plan (ie dead legs, replacing sinks, replacing major pipework routes etc) will support the NHSGG&C main objective in driving up the Boards compliance in this area.
- **HSE –** The Board has recently had to address issues around Legionella with the HSE.
- The **SCART** legislation associated with this will address issues around improving compliance.

Stakeholders *Enter known stakeholders to be consulted during the project process.*
▪ Public Peer Groups ▪ Staff Groups ▪ Visitors ▪ Environmental Groups ▪ HSE
Project Risks *Enter narrative of any identified project risks including where assumptions have been made that are not yet confirmed.*
Accessibility may be an issue.
Identified Project Constraints and Exclusions *i.e. the service delivery target date by which project work requires to be complete, constraints on access to start, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects*

Anticipated Revenue Implications *To be completed by the service.*	
Recurring	
Non-recurring	
Equipment Cost	
IT Cost	
Investment Period / Financial Year	

Completed by:	
Date	

PART 2

This part will be completed by Capital Planning or Estates.

Estimated Project Timeframe	
Design and Procurement	Nil
Construction	4 months
Commissioning	Nil
Total Anticipated Period	4 months

Identified Project Constraints and Exclusions *i.e. constraints on access to start, any known asbestos issues, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects.*
None.

Estimated Capital Costs	
Approximate project cost inclusive of VAT and fees.	£100k
Comments *Include narrative of any particular inclusions or exclusions.*	

Completed by:	Alan Gallacher
Date	1/6/2014

Summary of Approvals		
Capital Planning Group *Tick one only*	Corporate Capital Planning and Property Group	
	Acute Capital Forum	X
	CH(C)P Consolidated Capital Planning Group	
	Mental Health (Inpatient) Capital Planning Group	
	Glasgow City CHP Capital / Accommodation Planning Group (inc. South Lanarkshire pending completion of boundary changes)	
	East Dunbartonshire	
	West Dunbartonshire	
	Inverclyde	
	East Renfrewshire	
	Renfrewshire	

New Project Request Approved	YES	
	NO	
Comments (relative to approval / non-approval) *Insert comments relative to approval / non-approval, date of meeting and attach copy of minutes.*		
Date		

NHS Greater Glasgow and Clyde

CAPITAL PLANNING

Capital Planning
NEW PROJECT REQUEST

For

RAH – Remedial Works Associated with Water Safety

Acute Directorship

1/6/2014

Attachments:

List attachments to documents if any i.e. Project Organogram, Cost breakdown, Background and Options Paper

New Project Request Revisions Tracker:

Revision No	*V1*
Revision Date	
Revised By:	
Summary of changes:	
Enter description of changes	

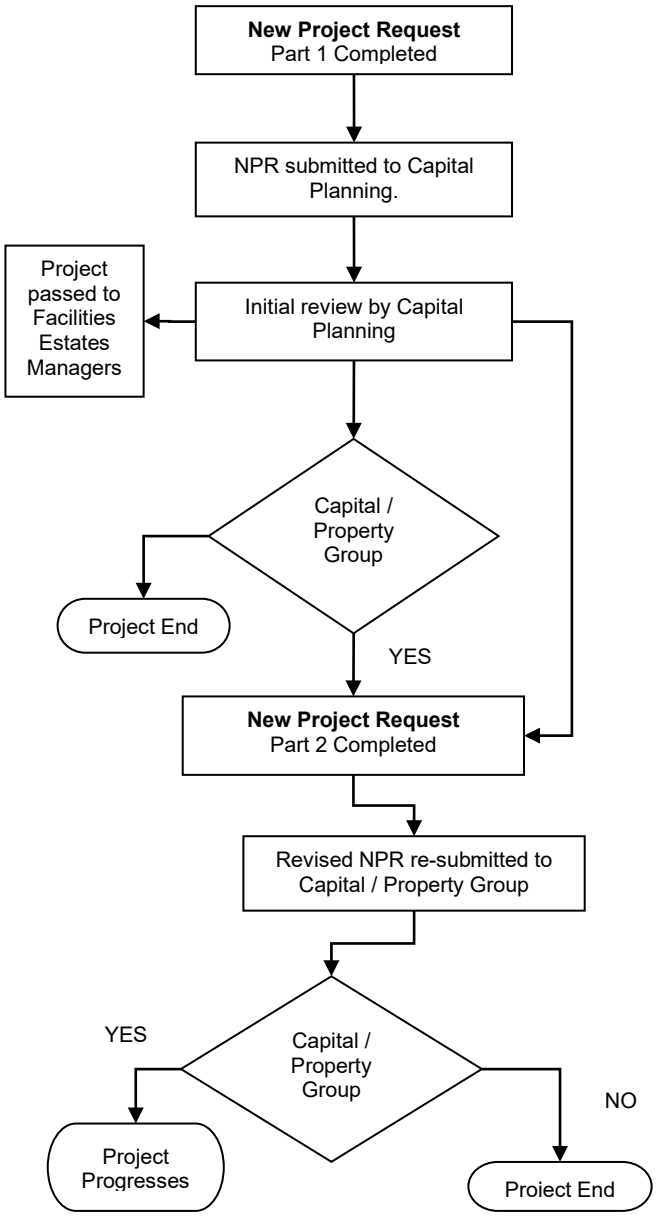
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

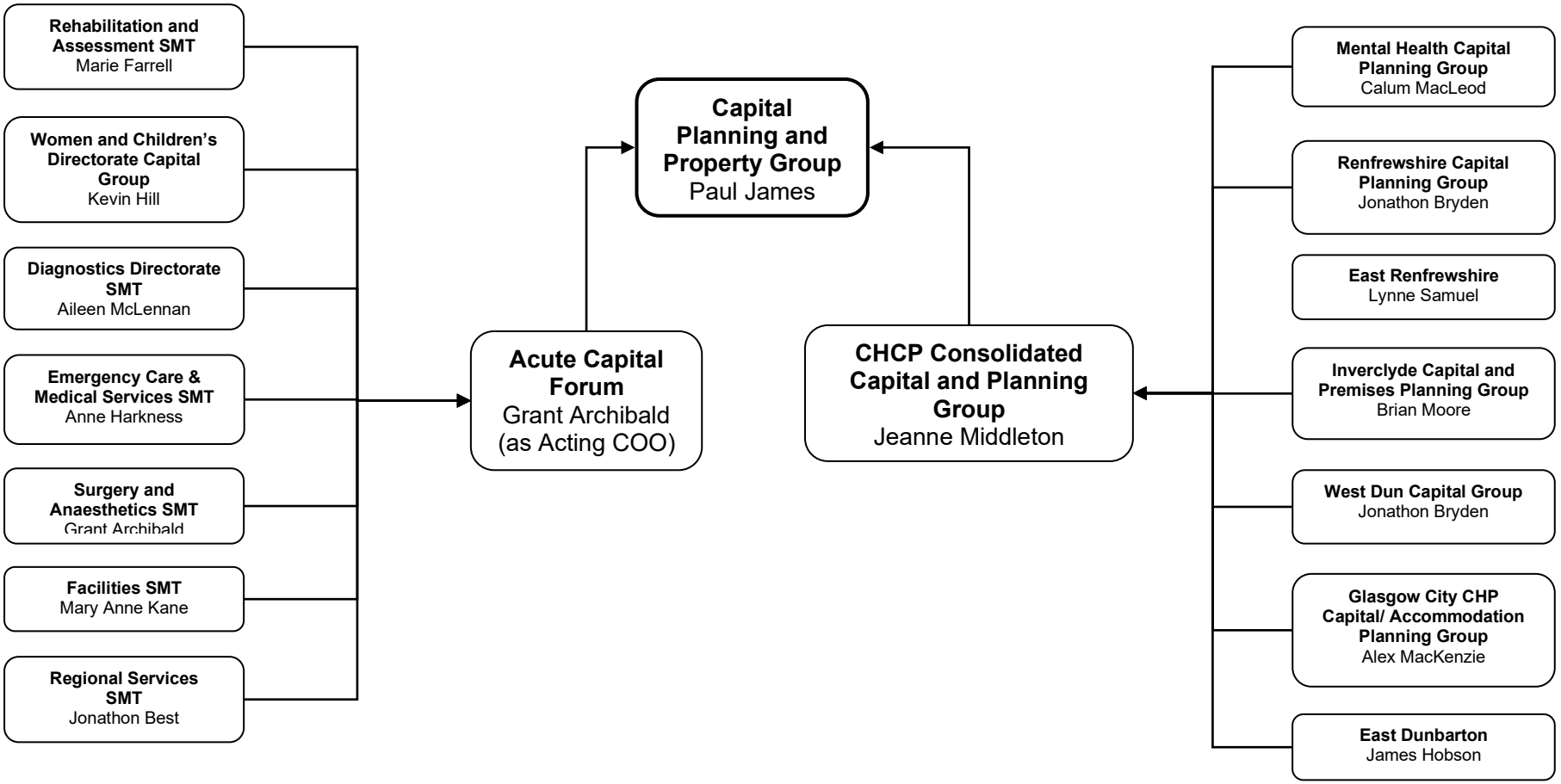
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

PART 1:
This part to be completed by the service

PROPOSED PROJECT PARTICULARS

Project Description
Enter a brief project description including site location.

Remedial Works associated with Water Safety (Legionella, Pseudemonas)

Directorate or Partnership Sector
Enter Acute Directorate or Partnership

Acute Directorate

Project Sponsor
Enter name, role and contact details of responsible person who is making request and who will be the lead service contact for the project.

Alan Gallacher – Sector Estates Manager (Clyde) and NHSGG&C Energy & Carbon Lead

Project Owner
Enter name, role and contact details of line manager who supports the request and will present the project for decisions at governance boards. This should be a General Manager or equal .

Mary-Anne Kane – Interim Director of facilities

Project Objectives
Enter description of objectives for the service provision to be met by the project.

- To manage the Water Safety within the RAH
- To address the areas identified within the EAMs as a 'high risk'
- To address all current H&S legislation around Water Safety
- To satisfy the requirements of the HSE around Legionella and Pseudemonas.

Service Outcome (strategic fit & benefits)
Enter supporting narrative of strategic benefits.

- **Legislative** – This will address any issues identified by the HSE around Legionella and Pseudemonas (ie ACoP L8, SGTM04-01, SBN274)
- **Reputational** – the finding of Legionella & Pseudemonas within NHSGG&C is currently a major issue which needs addressed by either managing, or removal.

.

Related Strategies and Policies

- **NHSGG&C Water Management Plan** – the removal of high risk areas within the water Management Plan (ie dead legs, replacing sinks, replacing major pipework routes etc) will support the NHSGG&C main objective in driving up the Boards compliance in this area.
- **HSE –** The Board has recently had to address issues around Legionella with the HSE.
- The **SCART** legislation associated with this will address issues around improving compliance.

Stakeholders *Enter known stakeholders to be consulted during the project process.*
▪ Public Peer Groups ▪ Staff Groups ▪ Visitors ▪ Environmental Groups ▪ HSE
Project Risks *Enter narrative of any identified project risks including where assumptions have been made that are not yet confirmed.*
Accessibility may be an issue.
Identified Project Constraints and Exclusions *i.e. the service delivery target date by which project work requires to be complete, constraints on access to start, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects*

Anticipated Revenue Implications *To be completed by the service.*	
Recurring	
Non-recurring	
Equipment Cost	
IT Cost	
Investment Period / Financial Year	

Completed by:	
Date	

PART 2

This part will be completed by Capital Planning or Estates.

Estimated Project Timeframe	
Design and Procurement	Nil
Construction	4 months
Commissioning	Nil
Total Anticipated Period	4 months

Identified Project Constraints and Exclusions *i.e. constraints on access to start, any known asbestos issues, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects.*
None.

Estimated Capital Costs	
Approximate project cost inclusive of VAT and fees.	£100k
Comments *Include narrative of any particular inclusions or exclusions.*	

Completed by:	Alan Gallacher
Date	1/6/2014

Summary of Approvals		
Capital Planning Group *Tick one only*	Corporate Capital Planning and Property Group	
	Acute Capital Forum	X
	CH(C)P Consolidated Capital Planning Group	
	Mental Health (Inpatient) Capital Planning Group	
	Glasgow City CHP Capital / Accommodation Planning Group (inc. South Lanarkshire pending completion of boundary changes)	
	East Dunbartonshire	
	West Dunbartonshire	
	Inverclyde	
	East Renfrewshire	
	Renfrewshire	

New Project Request Approved	YES	
	NO	
Comments (relative to approval / non-approval) *Insert comments relative to approval / non-approval, date of meeting and attach copy of minutes.*		
Date		

NHS
Greater Glasgow and Clyde

CAPITAL PLANNING

Capital Planning
NEW PROJECT REQUEST

For
VALE OF LEVEN HOSPITAL
LEGIONELLA PRECAUTIONS

ACUTE FACILITIES DIRECTORATE

28TH MAY 2014

Attachments: N/A

List attachments to documents if any i.e. Project Organogram, Cost breakdown, Background and Options Paper

New Project Request Revisions Tracker:

Revision No	*V1*
Revision Date	*Enter date*
Revised By:	*Enter name*
Summary of changes:	
Enter description of changes	

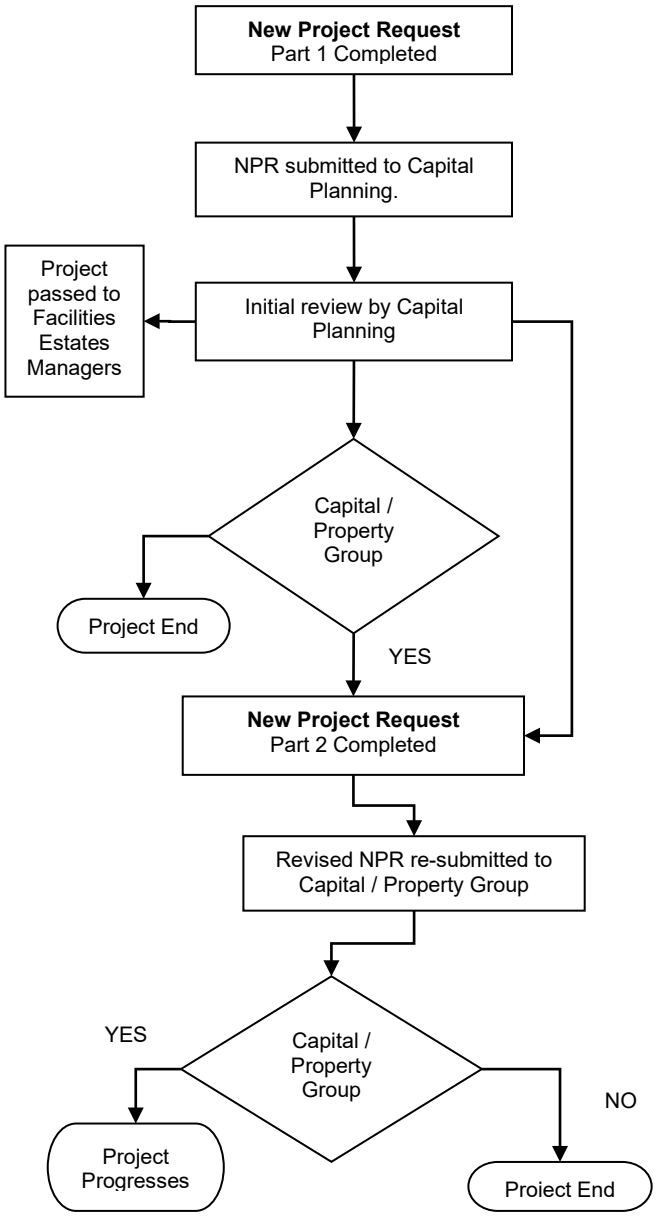
Guidance Notes:

A New Project Request should be completed for all construction or refurbishment projects regardless of proposed value and be submitted to Capital Planning for initial review. On initial review some works may be identified as minor estates maintenance and forwarded to Facilities Estates Managers. Where projects are identified as Capital Investment the NPR will be submitted to the appropriate Capital Planning group for consideration and prioritisation. Project scoping and costing will progress only after the appropriate Capital Planning group has approved the project for further consideration. The NPR must be updated and approved again if there is any significant scope or budget change.

Part 1 to be completed by the service and forwarded to Capital Planning team.

NPRCapitalPlanning@ggc.scot.nhs.uk

Part 2 will be completed by Capital Planning before further consideration by the appropriate Capital or Property Planning group.



New Project Request Part 1 completed by Service and submitted to Capital Planning.

Capital Planning review and complete any further known details. If enough information is known Part 2 is completed.

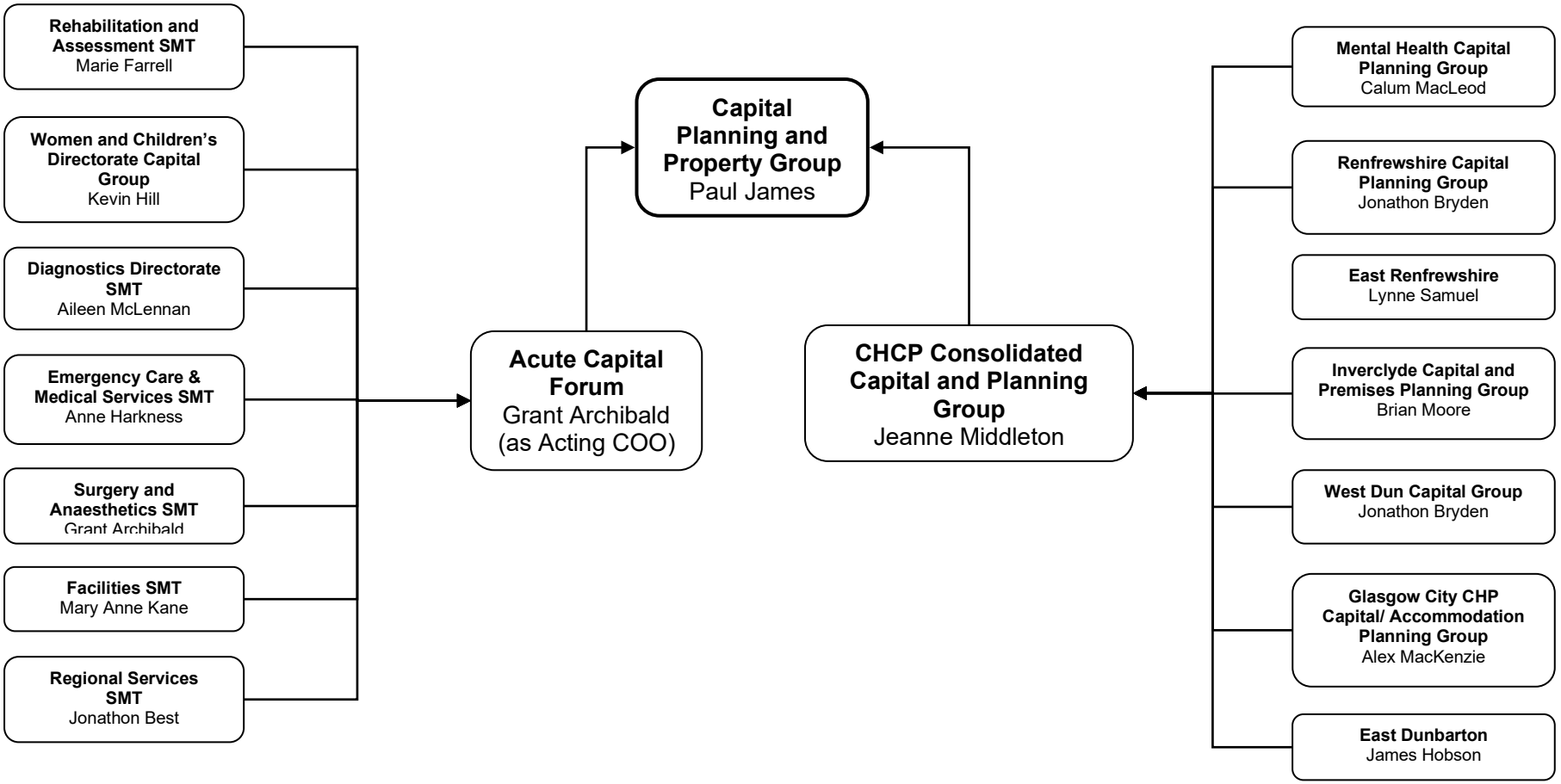
Project Owner submits partially completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide project position in priority list and if funding is approved to develop feasibility study.

Capital Planning develop costs and project timeframes to complete Part 2 of NPR.

Project Owner submits completed NPR's to next available Capital or Property Group meeting.

Capital / Property group decide if project is to proceed and identify funding source.


Rehabilitation and Assessment SMT
Marie Farrell
Women and Children's Directorate Capital Group
Kevin Hill
Diagnostics Directorate SMT
Aileen McLennan
Emergency Care & Medical Services SMT
Anne Harkness
Surgery and Anaesthetics SMT
Grant Archibald
Facilities SMT
Mary Anne Kane
Regional Services SMT
Jonathon Best
Capital Planning and Property Group
Paul James
Acute Capital Forum
Grant Archibald
(as Acting COO)
CHCP Consolidated Capital and Planning Group
Jeanne Middleton
Mental Health Capital Planning Group
Calum MacLeod
Renfrewshire Capital Planning Group
Jonathon Bryden
East Renfrewshire
Lynne Samuel
Inverclyde Capital and Premises Planning Group
Brian Moore
West Dun Capital Group
Jonathon Bryden
Glasgow City CHP Capital/ Accommodation Planning Group
Alex MacKenzie
East Dunbarton
James Hobson

PART 1:
This part to be completed by the service

PROPOSED PROJECT PARTICULARS

Project Description *Enter a brief project description including site location.*
Legionella Precautions
Directorate or Partnership Sector *Enter Acute Directorate or Partnership*
West Sector Acute Facilities Directorate
Project Sponsor *Enter name, role and contact details of responsible person who is making request and who will be the lead service contact for the project.*
John Menzies – Site Estates Manager – Vale of Leven Hospital – [redacted]
Project Owner *Enter name, role and contact details of line manager who supports the request and will present the project for decisions at governance boards. This should be a General Manager or equal .*
Alistair Maclean – Facilities General Manager – [redacted] Don Cleaver, Sector Estates Manager, West Sector - [redacted]
Project Objectives *Enter description of objectives for the service provision to be met by the project.*
On-Going management surveys to update Asbestos Register and Risk Assessments
Service Outcome (strategic fit & benefits) *Enter supporting narrative of strategic benefits.*
Statutory Compliance.
Related Strategies and Policies *Enter*
ACOP Legionella L8 NHS GG&C Water Systems Safety Policy, Written Scheme and Operational Procedures SHTM 04-01 EAMS – Statutory Compliance – Legionella - Section 22.10 – Risk Rating 12 – Significant EAMS System requires to be amended to reflect revised risk rating – being progressed
Stakeholders *Enter known stakeholders to be consulted during the project process.*
All Locations and Directorates
Project Risks *Enter narrative of any identified project risks including where assumptions have been made that are not yet confirmed.*
Failure to identify and remove known deadlegs / redundant pipework.
Identified Project Constraints and Exclusions *i.e. the service delivery target date by which project work requires to be complete, constraints on access to start, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects*

Cost for any Asbestos remedial works have not been included.

Anticipated Revenue Implications *To be completed by the service.*	
Recurring	As per existing maintenance costs
Non-recurring	£50,000.00
Equipment Cost	n/a
IT Cost	n/a
Investment Period / Financial Year	2014 / 2015

Completed by:	John Menzies
Date	28th May 2014

PART 2

This part will be completed by Capital Planning or Estates.

Estimated Project Timeframe	
Design and Procurement	6 weeks
Construction	12 weeks
Commissioning	Included within construction period
Total Anticipated Period	18 weeks

Identified Project Constraints and Exclusions *i.e. constraints on access to start, any known asbestos issues, specific works not to be included or requirements to maintain service. Include if decant required or any other known knock-on effects.*
Cost for any Asbestos remedial works have not been included.

Estimated Capital Costs	
Approximate project cost inclusive of VAT and fees.	£50,000.00
Comments *Include narrative of any particular inclusions or exclusions.*	

Completed by:	John Menzies
Date	28th May 2014

Summary of Approvals		
Capital Planning Group *Tick one only*	Corporate Capital Planning and Property Group	
	Acute Capital Forum	
	CH(C)P Consolidated Capital Planning Group	
	Mental Health (Inpatient) Capital Planning Group	
	Glasgow City CHP Capital / Accommodation Planning Group (inc. South Lanarkshire pending completion of boundary changes)	
	East Dunbartonshire	
	West Dunbartonshire	
	Inverclyde	
	East Renfrewshire	
	Renfrewshire	

New Project Request Approved	YES	
	NO	
Comments (relative to approval / non-approval) *Insert comments relative to approval / non-approval, date of meeting and attach copy of minutes.*		
Date		

From:	Hirst, Allyson
To:	Carnie, Frank; Connelly, Karen; Craig, Carol; David Hall; Forsyth, Graham; Frew, Shiona; Gallacher, Stephen; Forsyth, Graham; Greig, Mark; Griffin, Heather; Hirst, Allyson; Loudon, David; Macleod, Mairi; McAllister, Mark; McCluskey, Fiona; McColl, Eleanor; McDerment, Hugh; McGarrity, John; McNicholl, Sharon; Moir, Peter; Powrie, Ian; Smith, Alastair; Stewart, Robert; Wrath, Frances
Date:	01 August 2014 08:40:28
Attachments:	Project Team Meeting 1 August 2014 Progress update.pdf GT Projects Statement on Progress 1 August 14.pdf Notes of Meeting of 25th July 2014.pdf Highlight Report IT 1 August 2014.docx 1 AUGUST 2014 - agenda.pdf

Dear All

Attached papers for discussion at today's project team

Please let me know if you are not able to attend

Allyson Hirst
PA to the Project Director
New South Glasgow Hospital Development
Construction Offices
Hardgate Road
Govan
G51 4SX

[redacted]

From: Powrie, Ian
To: McCluskey, Fiona
Cc: Green, John
Subject: NSGH Pseudomonas Risk Assessment
Date: 04 August 2014 11:49:00
Attachments: NSGH Psudomonas Risk Assessment Water Safety July 2014 draft 1a.doc
SGH mtg 050614 V2.docx
Differences in 2014 guidance.pdf

Fiona

I would be grateful if you could rearrange for the risk assessment review meeting with a suitable representative from the ICT to review and finalise the RA recommended by HPS\HFS in their conclusion of the NSGH status with regards to implementing the recommendations of

I have attached for reference the supporting information and outcome from the recent meeting with HPS & the HFS water management group regarding the technical issues concerning the NSGH installation and it status pertaining to retrospective application of new guidance post contract. I have also attached the noted difference in the impending revised Pseudomonas guidance from HPS\HFS (Circa July\Aug 2014), the new text on page 10references the situation on the NSGH project.

John Green & I are available on the following dates:

Monday 11th Aug - am only.
Tuesday 12th Aug – am only.

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

ID:

Risk Assessment Form

Use this form for any detailed risk assessment unless a specific form is provided. Refer to your Summary of Hazards/Risks and complete forms as required, including those that are adequately controlled but could be serious in the absence of active management. The Action Plan and reply section is to help you pursue those requiring action.

Name of Assessor:	Ian Powrie, John Green	**Post Held:**	
Department:	**Estates**	**Date:**	July 2014

Subject of Assessment: E.g.: hazard, task, equipment, location, people

Assess residual risk to patients in designated high risk areas of the NSGH development, of not implementing the removal flow control regulators from water outlets where patients may be at a higher risk of from pseudomonas and related infections.

Hazards (Describe the harmful agent(s) and the adverse consequences they could cause)

Pseudomonas aeruginosa from water outlets

Description of Risk
Describe the work that causes exposure to the hazard, and the relevant circumstances. Who is at risk? Highlight significant factors: what makes the risk more or less serious – e.g.: the time taken, how often the work is done, who does it, the work environment, anything else relevant.

Pseudomonas aeruginosa (Pa), and other similar opportunistic pathogens, are micro-organisms that can cause outbreaks in any healthcare setting where patients are immunocompromised through drugs, disease, invasive device use or the presence of wounds. There have been serious healthcare associated outbreaks mainly in NNUs and ICUs (adult and paediatric) attributed to Pa where the source of the organism was thought to be tap water A review of all blood cultures for *Pseudomonas aeruginosa* was undertaken in period between 2010 – 2012 to identify areas with significant number of PA isolates. Other than receiving units, the main areas identified were intensive care areas across all NHS GGC sites and the Beatson Oncology Unit (wards 7,8 and 9). Table 1 shows areas within the NSGH which have been identified as falling in to this category and actions required following risk assessment.

Existing Precautions

Summarise current controls In place	**Describe how they might fail to prevent adverse outcomes.**
• New compliant designed water supply & distribution system. • Well engineered & installed distribution system. • Raw Water supply filtration to 0.2μm. • System commissioned in line with current best practice guidance. • Water Safety Systems Policy • Infection Prevention and Control Environmental Audit • Annual review of epidemiology of pseudomonas in blood culture	Failure to follow Policy and Written Scheme.

Level of Risk - Is the control of this risk adequate?
Give more than one risk level if the assessment covers a range of circumstances. You can use the 'matrix' to show how 'likelihood' and 'consequences' combine to give a conclusion. Also, be critical of existing measures: if you can think how they might fail, or how they could be improved, these are indications of a red or orange risk.

Risk Matrix

Likelihood	**Impact/Consequences**				
	Negligible	**Minor**	**Moderate**	**Major**	**Extreme**
Almost Certain	**Medium**	**High**	**High**	**V High**	**V High**
Likely	**Medium**	**Medium**	**High**	**High**	**V High**
Possible	**Low**	**Medium**	**Medium**	**High**	**High**
Unlikely	**Low**	**Medium**	**Medium**	**Medium**	**High**

Rare	Low	Low	Low	Medium	Medium

Very High High Medium Low

Current risk level

Given the current precautions, and how effective and reliable they are, what is the current level of risk? **Green** is the target – you have thought it through critically and you have no serious worries. Devise ways of making the risk green wherever you can. **Yellow** is acceptable but with some reservations. You can achieve these levels by reducing the inherent risk and or by effective and reliable precautions.
High (Orange) or Very High (Red) risks are unacceptable and must be acted on: use the Action Plan section to summarise and communicate the problems and actions required.

Action Plan (if risk level is **High (Orange) or Very High (Red)**

Use this part of the form for risks that require action. Use it to communicate, with your Line Manager or Risk Coordinator or others if required. If using a copy of this form to notify others, they should reply on the form and return to you. Check that you do receive replies.

Describe the measures required to make the work safe. Include hardware – engineering controls, and procedures. Say what you intend to change. If proposed actions are out with your remit, identify them on the plan below but do not say who or by when; leave this to the manager with the authority to decide this and allocate the resources required.

Proposed actions to control the problem List the actions required. If action by others is required, you must send them a copy	**By Whom**	**Start date**	**Action due date**
Routine maintenance measures In line with Boards water safety system policy site specific written scheme:			
• Develop site specific written scheme	Estates	Sept 2014	Dec 2014
• 3 Monthly: Carry out TMT operation test & visual inspection of outlet flow control device.	Estates	May 2015	May 2015
• 6 Monthly: Service exchange TMT maintenance procedure including: o Visual inspection and manual clean of components. o Full mechanical service & inspection. o Functional testing. o Thermal sanitisation.	Estates	Sept 2015	Sept 2015
• Thermal Sanitisation frequency to be verified by sampling\swabbing representative sample from each high risk area and compared with representative samples from Non high risk areas. (Note this control measure to be confirmed by ICT)			

Action by Others Required - Complete as appropriate: (please tick or enter YES, name and date where appropriate)

Report up management chain for action	Yes, Water safety Group
Report to Estates for action	Yes, Site Estates Manager
Contact advisers/specialists	Yes, Authorising Engineer (water systems) TBC
Alert your staff to problem, new working practice, interim solutions, etc	Yes, Include within new Written Scheme

Reply

If you receive this form as a manager from someone in your department, you must decide how the risk is to be managed. Update the action plan and reply with a copy to others who need to know. If appropriate, you should note additions to the Directorate / Service Risk Register.

If you receive this as an adviser or other specialist, reply to the sender and investigate further as required.

Table 1: Areas where action required to prevent *Pseudomonas aeruginosa* infection in healthcare settings

Site	Hospital	Ward	Assessment
SGH	NCH	Ward 1D (Paediatric Critical Care)	Water Safety Written Scheme
SGH	NCH	Ward 1E (Cardiology)	Water Safety Written Scheme
SGH	NCH	Ward 2A (Schiehallion)	Water Safety Written Scheme
SGH	NSGH	Adult Critical Care Unit	Water Safety Written Scheme
SGH	NSGH	Coronary Care Unit	Water Safety Written Scheme
SGH	NSGH	Ward 4B (Haemato-Oncology)	Water Safety Written Scheme

Assessment completed - date:	Ian Powrie, John Green, Sandra McNamee.	**Review date:**	Jan 2016

Health Facilities Scotland
Engineering and Environment

NHS National Services Scotland

Minutes of special meeting held in the Labs FM Block at the South Glasgow Hospital to discuss and resolve issues with Optitherm taps installed in the Hospital

Date: 5th June 2014

Time: 11/00 am

Chairman: Ian Stewart (IGMS) Health Facilities Scotland

Present:	Lisa Ritchie (LR)	Health Protection Scotland
	Paul Southworth (PS)	Health Protection Scotland
	Alan Gallacher (AG)	NHS Greater Glasgow & Clyde
	Ian Powrie (IP)	NHS Greater Glasgow & Clyde
	Jim McFadden (JMcF)	NHE Greater Glasgow & Clyde
	Gerry Cox (GC)	Golden Jubilee Hospital
	Iain McInally (IMcI)	NHS Ayrshire & Arran
	Jimmy Walker (JW)	Public Health England
	Ian Storrar (IGS)	Health Facilities Scotland
	Angus Horne (AH)	Horne Engineering Ltd
	John Horne (JH)	Horne Engineering Ltd

Apologies: These had been received from Eddie McLaughlan and Geraldine O'Brien

1. **Welcome and introductions:**

   IGMS thanked everyone for their attendance and conducted the necessary introductions.

2. **Background information:**

   IGMS explained that following the neonate deaths in Northern Ireland in 2012 guidance had been published individually by DH and HPS/HFS with the aim of setting out precautions to avoid infections from *Pseudomonas* sp. SHTM 04-01 had been updated to replicate this. Scottish guidance was about to be reviewed.

   Among the recommendations was advice that flow straighteners / aerators / rosettes should not be installed within taps in accommodation occupied by vulnerable (immunocompromised) patients.

   Concern had been expressed that the South Glasgow Hospital- due for handover early in 2015 - incorporated taps with these features, principally Optitherm taps manufactured by Horne Engineering. The meeting had been requested by NHS GG&C to review their situation and an invitation issued to Horne Engineering had been taken up.

Differences between SHTM and HTM 04-01were referred to and are summarised in the Addendum

3. Horne Engineering presentation;

This was given by Angus Horne, Managing Director, who was grateful for the opportunity to attend.

The issue was illustrated showing the desirability of retaining a solid column of water delivered (laminar flow-fashion) from a tap outlet. It was necessary that this should not be broken up and aerators should *never* be fitted to tap outlets. The importance of the stopping of water delivery coincidentally with the closing of the tap lever was stressed. If water continued to empty from the body of the tap, this would induce air providing scope for retrospective contamination. HSG274 (part 2 clause 2.46) stated that “wetted systems should not be drained down”. While this referred to the commissioning of complete systems it was equally applicable to taps. JW explained this further in the context of self-draining showers that induced air into warm dark places that were introduced on the premise that self-draining would reduce the propensity for *Legionella* in the shower head or hose. This was not, in the end, found to be the case.

A plea was made for the designation “flow straighteners” or “outlet fitting” to be used in guidance. The devices integral with the Optitherm taps relied on a mesh made out of hexagonal holes to maintain surface tension and hold back water within the tap body after shut-off.

4. Discussion:

In discussion, JW illustrated the build-up of biofilms on similar outlet devices found in taps installed in Northern Ireland. JW had been advised that the build-up had occurred within 4 months. AH explained that a more open mesh did not allow surface tension and water retention to be so efficiently achieved. Also illustrated was the extent of *Pseudomonas* contamination around a typical wash hand basin and the splashing that had occurred on the surroundings and floor. Contamination was also likely if correct procedures were not followed in the cleaning regime adopted. A cloth used to clean the WHB surfaces followed by the tap could create a “wicking” process and contamination of the inner surface at the point of discharge. (Current guidance is available on how to clean wash hand basins and outlets). A more open mesh did not allow surface tension and water retention to be so efficiently achieved. JW explained that a test rig had been set up at Porton Down. This had identified weak points liable to be contaminated as the tap outlet, the solenoid and the thermostatic valve. Testing had been carried out by injecting contamination to the pipework. Further research and experimentation would be required with *Pseudomonas* contamination applied at the point of delivery.

It was concluded that spout water retention was unlikely to eliminate *Pseudomonas* although a reduction may be possible. LR stressed the reasons for incorporating the six critical points in the existing and forthcoming updated guidance. Risk management was the key. *Pseudomonas* elimination was the holy grail. Influences on outcomes included, commissioning procedures, operational management, seasonal influences and personnel involved. The approach had to be tailored to individual circumstances. There was no fixed rule.

IGMS thanked Horne Engineering for taking the time to explain the working of their product and suggested that they should take the opportunity to give presentations to the National Water Services Advisory Group on future innovative products.

5. Action arising from presentation:

5.1 **Forthcoming HPS/HFS guidance**: It was felt that the six critical points referred to and the risk-based proportional approach was still appropriate and no alteration appeared necessary. The review of the guidance would be circulated to the Water Group and to SETAG.

Action: IGMS

5.2 **SHTM 04-01** would similarly be unaffected as it replicated the HPS/HFS guidance being issued for review. IGMS pointed out that it now incorporated more helpful advice on the setting up of water safety groups.

5.3 **The South Glasgow Hospital**: it was unanimously agreed that as the taps installed within the new build development had complied with guidance current at the time of its specification and briefing and that the hospital was in the process of being commissioned, it should be regarded as being in the “retrospective” category, not “new build”. There was no need to apply additional flow control facilities or remove flow straighteners and any residual perceived or potential risks would form part of the routine management process.

5.4 **Future research**: It was agreed that there was a need to determine whether the retention of water within the body of taps offered a better solution to that of ensuring that none was retained. Further research and experimentation would be required with *Pseudomonas* contamination applied at the point of delivery.

Ian Stewart
Health Facilities Scotland
5th June 2014

ADDENDUM

Differences between HTM and SHTM 04-01

HTM 04-01 Part A

Paragraph 2.6 Devices fitted to, or close to, the tap outlet (for example flow straighteners) may exacerbate the problem by providing the nutrients which support microbial growth, providing a surface area for oxygenation.

Paragraph 3.9 Owing to their high surface-area-to-volume ratio and location at the tap outlet, certain designs of flow straightener may present a greater surface area for colonisation and support the growth of organisms. Therefore, when selecting new taps, where possible flow straighteners should be avoided/not included. Health Building Note 00-09 also advises against using aerators in outlets.

Paragraph 4.49b Where practical, consider removal of flow straighteners. However, the removal of flow straighteners may result in splashing and therefore additional remedial action may need to be taken. If they are seen to be needed, periodically remove them and either clean/disinfect or replace them. Replacement frequency should be verified by sampling/swabbing.

SHTM 04-01 Part A

Note 15 recommends the removal of flow straighteners.

“The Scottish Water Byelaws 2004 place limits on the flow of water to draw-offs where plugs are not provided. Spray-type mixer taps are not recommended in healthcare premises; therefore, the type of tap should be carefully selected to minimise the formation of aerosols. The water flow profile must be compatible with the shape of the wash hand basin. Flow straighteners and aerators can capture biofilm but their removal can create turbulent flow at increased pressure resulting in splashing of surrounding surfaces and flooring. Current advice is that they should be removed.”

List of addition/amendments to Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of *Pseudomonas aeruginosa* infection from water

Page 1

New Bullet point

- The control of legionella bacteria in hot and cold water systems. HSG274 Part 2

New text box

- *A multi-disciplinary approach is required for this guidance to work as intended. The actions cannot be left solely to Estates staff: collaboration and participation from Infection Prevention & Control Teams, Clinical staff and domestics as well as Estates & Facilities Teams is required. This is the key to ensuring that infection control risks are highlighted, managed and mitigated.*

Page 4

First paragraph – New sentence

In a number of cases, sinks have become sources of pathogenic spread after disposal of body fluids or exudates into hand-wash stations[12-14].

Page 5

New text in paragraph High Risk Environments

(See: Appendix 5)

New paragraph

High-risk procedures

Some procedures involve the cooling of syringes containing infusates in ice-water. This has resulted in outbreaks infections when the ice-water was contaminated[26-28]. Syringes should not be cooled in ways that could contaminate the contents, or the tip of the syringe. The use of ice made from sterile water may be appropriate.

Page 8

New text

1.1 Review site engineering and cleaning protocols to establish that they are in accordance with current guidance including SHTM 04-01 *Water safety for healthcare*

premises[30], *HSE guidance note L8 Approved Code of Practice*[31], HSE guidance *HSG274 Part 2: The control of legionella in hot and cold water systems*[32] and guidance and that manufacturers' instructions with regard to installation and maintenance have been followed.

Page 9

Reworded text

- Carefully select taps to minimise the formation of aerosols. The water flow profile should be compatible with the shape of the hand wash station. Biofilm can develop on flow straighteners, rosettes and aerators. It is therefore recommended that these are removed. However, the decision to remove flow straighteners, rosettes and aerators should be based on risk assessment, as their removal can create turbulent flow at increased pressure resulting in splashing of surrounding surfaces and flooring. ~~and it is recommended that these are removed from taps. In so doing, the increased water flow can create turbulence due to increased pressure resulting in splashing of surrounding surfaces and flooring.~~ It will be necessary for the engineer to adapt the water distribution system using regulating valves to restrict the flow as required. A discharge flow rate from taps of 3 litres per minute will be sufficient to avoid splashing.

New Text

Installation of taps

It is not possible to have taps 'pre-disinfected'. Disinfection will have to rely on normal flushing and disinfection protocols that would apply to any new installation before commissioning and putting into use. In new build or refurbishment projects this process should be undertaken as close as possible to the system being handed over to avoid pipework being left unused filled with stagnant water and in consultation seek advice from HFS. A daily flushing regime should be put in place until the system is handed over. Automated tap sensors should be positioned away from the tap. Taps should ideally be removable and easily dismantled for cleaning and disinfection. Automated taps have a greater risk of their complex internal surfaces becoming contaminated with micro-organisms and biofilms. Automated taps are not recommended for low-use situations.

Thermostatic mixing devices have complex internal structures that can entrap waterborne bacteria and biofilm. Risk assessments should be carried out to determine the potential to replace thermostatic mixing devices in augmented care accommodation where it is unlikely that patients will use wash hand basins.

Page 10

New Box

NOTE While the policy of 'engineering out the problem' always applies, there are situations where this may not be easily achieved, or may not be appropriate. These would include where alterations would create disruption and danger of infection. This will particularly apply to retrospective compliance. Similarly, where new build or refurbishment projects have already been contracted prior to the publication of updated guidance and contractual implications would inhibit making changes to the employer's requirements, then retrospective modifications to the engineered system may not be practical. In these situations a risk-based and proportional response should be adopted by assessing risks arising from hazards, identifying the appropriate actions recommended within the guidance, and identifying operational steps to be taken in order to manage, eradicate or minimise the risks.

Page 13

New Text

3.2 Paediatric and Adult ICU usage of Tap Water

There is no restriction on the usage of water for washing, drinking or oral hygiene by adults or paediatrics. The guidance on the use of ice remains extant, i.e. the use of ice for consumption by severely immunocompromised patients should not be taken from automatic ice-making machines but should be made with sterile water[35].

Page 14

Reworded for clarity

Small volume fluids	Do not discard small volume fluids (e.g. ET condensate, baby washing water <50mls) into hand wash stations. Empty fluids directly into a clinical waste bag. Alternatively these small volumes may be absorbed by (e.g. cotton wool balls), before disposal into a healthcare waste bag.

Page 17

New Guidance

Further information on microbiological examination of water supplies for *P. aeruginosa* can be found in ~~'Water Sources and Pseudomonas aeruginosa infection of taps and water systems, DH, 31 March 2012~~ Health Technical Memorandum 04-01: Addendum. ~~*Pseudomonas aeruginosa* -~~ advice for augmented care units'. (Appendix 4)

Page 22

New text and deletion of paragraph

- Health and Safety and Domestic Services Managers. See Appendix 5 for the Key Steps of a Water Safety Plan for a Healthcare Facility.

~~**Contents of a Water Safety Plan**~~

~~A Water Safety Plan should include the following:~~

- ~~A Risk Assessment of Pa infection to the patients in the NHS Board~~
- ~~A prioritised list of actions required to optimise patient safety.~~
- ~~Recommendations to the Infection Control (or other) Committee of the work that needs to be taken for the Annual Programme~~
- ~~Frequency of update reports to the Infection Control (or other) Committee of the progress of the approved work in the Annual Programme and continued compliance with control measures to reduce the risk of Pa infection, e.g. flushing of taps in NNUs and ICUs daily.~~

Page 25

New text

The latest information suggests that the more hand wash stations in any given clinical environment the less the amount of water pulled through from any individual water outlet (tap) and consequently the greater the risk for biofilm formation on pipework[40]. Overall safety from all HAI (*P. aeruginosa* and non- *P. aeruginosa*) risks needs to be balanced. Therefore, a precise number of hand wash stations to beds/cots are not specified in this guidance. SHTM 04-01[30]/SHFN 30[39] is currently being revised in line with the instructions in this section:

Page 29

New Guidance

Appendix 4 - Microbiological examination of water samples for P. aeruginosa

[Source: ~~Water Sources and *Pseudomonas aeruginosa* infection of taps and water systems, DH, 31 March 2012~~ Health Technical Memorandum 04-01: Addendum. *Pseudomonas aeruginosa* - advice for augmented care units, Department of Health 2013]

Page 30

New Appendix

Appendix 5 – Key steps of a Water Safety Plan (WSP) for a Healthcare Facility[41]

- Establish an Environmental Monitoring Committee (or equivalent);
- Document and describe the entire water distribution system including schematic diagrams;
- Carry out a hazard analysis and risk characterisation, assessing the likelihood and impact;
- Assess the risks pertaining to all water, water systems, water uses, routes of exposure and patient risk groups;
- Assess incoming source water quality and composition;
- Identify and evaluate existing control measures;
- Identify and implement additional control measures;
- Carry out scalding risk assessments;
- Enter ongoing risks onto the facility's risk register and manage appropriately;
- Monitor and audit control measures;
- Ensure maintenance is carried out in line with current recommendations;
- Maintain an up-to-date hygiene logbook;
- Develop written policies and procedures;
- Develop a contingency plan for major disruptions to the incoming water supply;
- Establish a communication plan;
- Provide staff training and ensure competency;
- Carry out the necessary validation, verification, and audit processes;
- A WSP is a dynamic document. It is important that it is not seen as a one-off exercise. It must be kept up-to-date. Many factors in the day-to-day running of a facility can affect the risk of water system contamination such as:
    - Planned/unplanned works or maintenance of the water system;
    - Building renovation or refurbishment;

- Closure and re-opening of the facility or parts of it (planned or unplanned)
- Change of use of the building, or part of it;
- Disruptions to the water supply or to the facility;

The WSP should be reviewed on an annual basis and when there are alterations, repairs, changes of use, building works, or critical incidents.

Sites where there are mixed uses such as buildings for direct healthcare provision and buildings for administration are often supplied by the same mains water supply. However, water systems use within both will be substantially different and can negatively impact in either direction. This must be addressed during the development of a WSP and there must be clear responsibility for the safety of water on the site.

The key factors that influence risk and should be incorporated in a healthcare facility's WSP and assessed as part of the risk assessment are:

- Source water quality and characteristics;
- Age, design and size of building;
- Temperatures, pressures and flow;
- Materials, fixtures and fittings;
- Unit/ward design;
- Augmented care units;
- Outlet use;
- Cleaning, maintenance and disinfection;
- Staff training; and
- Audit.

From: McIntyre, Hazel
To: Kane, Mary Anne
Cc: Curran, Anthony
Subject: Formula Capital Directorate Bids
Date: 04 August 2014 16:51:48
Attachments: 140804 NPR Register Extract Directorate Bids.xlsx

Mary-Anne,
Attached is an extract of the New Project Request tracker listing the projects that need input from the Clinical Directorates to be assessed and prioritised for consideration in the Capital Plan. As discussed this morning with Grant and Peter could you please request that the Directors prioritise these into three groups by considering - Are they essential? Are they required for NSGH migration? And if so by when? The 3 groups will then be:

1. Projects that are essential to facilitate the delivery of the migration plan associated with the commissioning of the NSGH project. These are projects that were always known about and have key delivery dates and constraints but have not yet been funded.
2. Projects that are essential to deliver the ongoing strategy related to service redesign centred around the NSGH but do not have defined dates related to the migration plan and have not yet had funding allocated.
3. Projects that support that ongoing board strategies but are not constrained by time limitations.

We would expect the directors to have received copies of the bids coming from the persons named in the spreadsheet, but if they need these we can provide them electronically.
Regards, Hazel

Hazel McIntyre
General Manager - Capital Planning
[redacted]

NHSGG&C Capital Planning
Admin Block, Gartnavel Royal Hospital
1055 Great Western Road, Glasgow, G12 0XH

ID	NPR No	Date Received	Location	Project Description	Directorate/Partnership Sector	Project Owner	Value	Statutiory Compliance?	Time	Owner of approved	approved	Approval status	Comments
144	144	09-Jul-14	Stobhill	Creation of Pathology Archive Facility	Acute-Diagnostics	Jackie Walker						3	
108	108	10-Jun-14	RAH	RAH Emergency Department Enhancing the blue print and flow	Acute-Emergency Care and Medical Services	Jacqueline Nicol						3	feasibilty required?
110	110	10-Jun-14	GRI	GRI Refurbishment of Respiratory Care Department	Acute-Emergency Care and Medical Services	Melanie McColgan						3	feasibilty required?
113	113	10-Jun-14	IRH	IRH Re-location of OPD Clinics	Acute-Emergency Care and Medical Services	Jacqueline Nicol						3	feasibilty required?
114	114	10-Jun-14	GRI	GRI Emergency Department Open Plan Office Development for additional staff	Acute-Emergency Care and Medical Services	Melanie McColgan	30					3	feasibilty required? Revenue?
115	115	10-Jun-14	GRI	GRI ECG Department Refurbishment	Acute-Emergency Care and Medical Services	Melanie McColgan						3	feasibilty required?
145	145	02-Jul-14	SGH	Conversion of PDRU Admin etc into 8-10 bed unit	Acute-Rehabilitaion and Assess	Marie Farrell	400					2	
116	116	09-Jun-14	GRI	GRI Recommissioning of Theatree L WITH Laminar Flow from makeshift storage	Acute-Surgery and Anaesthetics	Michelle Carr	753					3	this value would cover the request from estates no.
117	117	09-Jun-14	GRI	GRI Conversion of TSSU to a Sterile Instrument Pack Store	Acute-Surgery and Anaesthetics	Michelle Carr	76					3	Aligned with 116 bid feasibilty required?
118	118	09-Jun-14	GGH	GGH Redesign and Refurbishment of Theatre Suite to provide SDAU and 2nd Stage Recovery	Acute-Surgery and Anaesthetics	Michelle Carr						3	feasibilty required?
44	44	05-Jun-14	SGH	SGH Reconfiguration of Pathology Laboratory Space	Diagnostics/Laboratory Medicine	Isobel Neil						3	feasibility required?
45	45	06-Jun-14	GRI	GRI Heating and Ventilation System Repair in Medical Illustration	Diagnostics/Medical Illustration	Antoinette Parr						3	feasibility required?
47	47	09-Jun-14		RHSC Emergency Department Minor Refurbishment	Women and Children	Jamie Redfern						3	feasibility required
48	48	09-Jun-14	SGH	SGH Neonatal Unit Infrastructure for 10 Additional Cots	Women and Children	Jamie Redfern	350				1100	3	feasibility required - includes circa £750k equipment

From: Matheson, Fiona
To: Kane, Mary Anne; Wallace, Stephen
Cc: Hunter, William
Subject: DRAFT Estates Awareness NSGH Presentation
Date: 05 August 2014 16:19:17
Attachments: EstatesAwareness NSGH Aug 14.pptx
Importance: High
Sensitivity: Confidential

Please find attached Draft for discussion tomorrow morning

Regards
Billy

PS I've signed up to improving our email culture

Fiona Matheson\Personal Assistant to William Hunter, General Manager, Facilities South & Clyde Sector NHS Greater Glasgow Clyde \ New Laboratory Medicine & FM Building \ Southern General Hospital t. [redacted]

Transfer Schedule to NSGH

			Technicians			Core Trade					Primary Focus	Note Ref
	EO's	Supervisor's	Electrical	Mechanical	Plumbing	Joiner	Painter	Builder	MA	Total		
Oct - Jan	5	0	5	3	3	0	0	0	0	16	NSGH Critical systems Train the trainer & detailed NSGH site familiarisation.	(1)
											Pre handover: Detailed site familiarisation for effective site operation and management (rotation of demitting staff over 2 months)	
Feb - Mar	5	2	6	6	4	2	0	0	3	28	Brookfield: Full System specific familiarisation training programme & support NSGH operational commissioning (12 week period).	
April	7	2	6	6	4	2	0	0	3	30	Support NSGH operational commissioning (12 week period).	
04/05/15	9	4	12	10	6	3	0	1	4	49	Southern General	(2) & (3)
17/05/15	10	5	14	13	8	4	4	1	8	67	Victoria + MH	
07/06/15	10	5	18	14	10	5	4	1	12	79	Western Infirmary	

From: Davenport, Christine
To: Gallacher, Alan
Cc: Kane, Mary Anne; Anderson, Robert
Subject: RE: Authorising Engineer services
Date: 05 August 2014 14:08:58
Attachments: image001.jpg

Alan

Can you use the cost centre G43209 please . We will use this code until you are able to provide a split of the costs between sectors

Regards

Christine

From: Anderson, Robert
Sent: 05 August 2014 13:44
To: Gallacher, Alan
Cc: Davenport, Christine; Kane, Mary Anne
Subject: RE: Authorising Engineer services

Hi Alan,

There has not been any funding identified for this so SEMs will need to identify how they can meet costs from current budgets. Christine will provide codes as I recognise there isn't an option not to do this but there needs to be a paper to SMT on this and the SCART training!

Cheers

Rob

From: Gallacher, Alan [redacted]
Sent: 05 August 2014 13:39
To: Anderson, Robert
Cc: Davenport, Christine
Subject: RE: Authorising Engineer services

Rob,

Water and Ventilation are new. We have never had these in place however the SHTM say we require them. HV/LV is an existing cost across NHSGG&C and has just expired. It was also with Turner.

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &

Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Inverclyde Royal Hospital
Education Centre Rm 1.03
Larkfield Road
Greenock
PA16 0XN

[redacted]

[redacted]

From: Anderson, Robert
Sent: 05 August 2014 13:37
To: Gallacher, Alan
Cc: Davenport, Christine
Subject: RE: Authorising Engineer services

Hi Alan,

Are these costs replacing existing costs in each Sector?

Cheers

Rob

From: Gallacher, Alan [redacted]
Sent: 05 August 2014 13:23
To: Anderson, Robert
Subject: Authorising Engineer services

Rob,

The NP Framework for AE Services is now in place. I believe John Gilmore got a finance code from you for MGPS. I need similar for HV/LV, Ventilation and Water Boardwide. The costs are as follows:

- Water - Legionella Control Ltd, - £20500/annum plus vat
- Ventilation - Turner - £15332/annum plus vat
- HV/LV - Turner - £12413/annum plus vat

This is based on a 3 year plus 1 contract.

There are also costs for Confined Spaces but at present I feel we need to investigate this further. Pressure Systems is also on the horizon and will also need addressed and funded.

Thought I would give you the good news!!

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Inverclyde Royal Hospital
Education Centre Rm 1.03
Larkfield Road
Greenock
PA16 0XN

[redacted]

[redacted]

From: Harkness, Anne
To: Kane, Mary Anne
Subject: FW: Formula Capital- prioritisation
Date: 05 August 2014 16:31:40
Attachments: 140804 NPR Register Extract Directorate Bids.xlsx

I have done this but I have to say that if our strategy is to only invest in new south schemes I think that is a mistake

my number 1 scheme is the RAH ED

GRI ED offices could be done in 15/16 as long as they are done by end of may when docs will move

Anne

From: Kane, Mary Anne
Sent: 04 August 2014 17:11
To: Best, Jonathan; Harkness, Anne; Farrell, Marie; Hill, Kevin; Archibald, Grant; MacLennan, Aileen
Cc: McIntyre, Hazel; Gallagher, Peter
Subject: Formula Capital- prioritisation

As you are all aware Formula Capital Funds are extremely limited this year and as such the bids received from Directorates exceeds available funding.
It is therefore necessary for us to review the absolute necessity of all submitted projects in the context of timeframes to allow programming .
In order to do this I would be grateful if you could review the attached bids and divide them into three categories as follows

1. Projects that are essential to facilitate the delivery of the migration plan associated with the commissioning of the NSGH project. These are projects that were always known about and have key delivery dates and constraints but have not yet been funded.
2. Projects that are essential to deliver the ongoing strategy related to service redesign centred around the NSGH but do not have defined dates related to the migration plan and have not yet had funding allocated.
3. Projects that support that ongoing board strategies but are not constrained by time limitations.

In the attached spreadsheet you should complete within the priority column whether the project meets the 1,2 or 3 definition above. Timescale should also be completed in the appropriate column to identify a timeline when the project requires to be delivered by .
Comments column is provided to allow any narrative you may wish to provide more detail on in support of the case .
Given that you should have been involved in the submission this will be discussed at the OMG on Thursday.
Completed returns must be with me by **close of play Wednesday to allow us to discuss**

this at OMG and enable decisions to be made .
Regards
Mary Anne

From: Best, Jonathan
To: Kane, Mary Anne
Cc: Archibald, Grant
Subject: FW: Formula Capital- prioritisation
Date: 05 August 2014 14:59:57

Mary Anne,

Here are the schemes in priority order.

Regards,

Jonathan.

From: Carr, Michelle
Sent: 05 August 2014 13:06
To: Best, Jonathan
Subject: RE: Formula Capital- prioritisation

Jonathan,

Priorities are:

116	116	09-Jun-14	GRI	GRI Recommissioning of Theatre L WITH Laminar Flow from makeshift storage	Acute-Surgery and Anaesthetics	Michelle Carr	priority 3
117	117	09-Jun-14	GRI	GRI Conversion of TSSU to a Sterile Instrument Pack Store	Acute-Surgery and Anaesthetics	Michelle Carr	priority 2
118	118	09-Jun-14	GGH	GGH Redesign and Refurbishment of Theatre Suite to provide SDAU and 2nd Stage Recovery	Acute-Surgery and Anaesthetics	Michelle Carr	priority 1

Scheme 117 and 116 are related. Scheme 117 needs to happen first to enable Theatre L to return back to a theatre from a store room.

Let me know if you need anything further.

Cheers,

M

From: Best, Jonathan [redacted]
Sent: 05 August 2014 08:28
To: Carr, Michelle
Subject: FW: Formula Capital- prioritisation

M,
I hope you had a great holiday!

Can you look at the attached and prioritise our 3 schemes. This needs to be completed by tomorrow.

Call me if you want to discuss.

Jonathan.

From: Kane, Mary Anne
Sent: 04 August 2014 17:11
To: Best, Jonathan; Harkness, Anne; Farrell, Marie; Hill, Kevin; Archibald, Grant; MacLennan, Aileen
Cc: McIntyre, Hazel; Gallagher, Peter
Subject: Formula Capital- prioritisation

As you are all aware Formula Capital Funds are extremely limited this year and as such the bids received from Directorates exceeds available funding.
It is therefore necessary for us to review the absolute necessity of all submitted projects in the context of timeframes to allow programming .
In order to do this I would be grateful if you could review the attached bids and divide them into three categories as follows

1. Projects that are essential to facilitate the delivery of the migration plan associated with the commissioning of the NSGH project. These are projects that were always known about and have key delivery dates and constraints but have not yet been funded.
2. Projects that are essential to deliver the ongoing strategy related to service redesign centred around the NSGH but do not have defined dates related to the migration plan and have not yet had funding allocated.
3. Projects that support that ongoing board strategies but are not constrained by time limitations.

In the attached spreadsheet you should complete within the priority column whether the project meets the 1,2 or 3 definition above. Timescale should also be completed in the appropriate column to identify a timeline when the project requires to be delivered by . Comments column is provided to allow any narrative you may wish to provide more detail on in support of the case .
Given that you should have been involved in the submission this will be discussed at the OMG on Thursday.
Completed returns must be with me by **close of play Wednesday to allow us to discuss this at** OMG and enable decisions to be made .
Regards
Mary Anne

From: Hunter, William
To: Kane, Mary Anne; Wallace, Stephen
Subject: FW: Maintenance strategy meeting 31\7\2014 - summary
Date: 05 August 2014 10:43:56

Mary Anne/Stephen (for your discreet info pls),

I met with Jim/Ian a few times last week to discuss the transfer of maintenance staff to NSGH etc. Ian was escalating concerns to me therefore I had asked that he capture his concerns & direct them to me by email asap....so that I could consider his points & respond accordingly.

I received this email com from Ian on Friday evening & it would be helpful to discuss these points with both of you... off line (preferable after tomorrows p/ship meeting).

I am keen to respond to Ian within the next day or so however before doing so would prefer to the opportunity to share my thoughts.

I am in no doubt there will be more of this to come....therefore I am keen to have a trail of responses in place to cover all the points that are raised.

Billy

From: Powrie, Ian
Sent: 01 August 2014 16:59
To: Hunter, William
Subject: Maintenance strategy meeting 31\7\2014 - summary

Billy

Sorry this has taken so long, had to prepare some additional info for the patient entertainment tender. Let me know if this covers your requirements?

As requested I have detailed below for your reference my stated case in relation to the proposed Estates management strategy to the following key services:

1. Lifts : 1st line response to trapped passengers.
2. Energy Centre operational Management.

Lifts:

The NSGH construction contract includes a 2 year warranty on all elements of the construction and building services, including lifts. I addition to this the contract has a 2 years' service support contract with the lift manufacturer (schindler) for all lifts.

There are 34 Lifts in the NSGH, 12 bed lifts, 11 public lifts & 11 FM lifts (10 of which are AGV controlled lifts).

The proposed strategy for 1st line response for the release of trapped passengers is based on the speed of response required where passengers at clinical risk i.e.

Critical patent movements i.e.

- Helipad transfers.
- Theatres transfers
- ICU transfers
- Radiology transfers etc.

Consideration should also be given to the impact on the AGV activity schedule and the impact on site FM service logistics should an AGV be trapped in a lift and that lift is out of service for an extended period.

The standard response time from Schindler to a call is 4 hours, which has been negotiated down to 2 hours for the NSGH support contract, It is also recognised that most responses from specialist lift service provides are within the 30 minute window, but not all call achieve this response time.

We Should therefore consider the implications of our specialist service response exceeding the 30 minute window?

Therefore in order to ensure that the FM service can effectively response to such situations our 24/7 emergency response team (rotary shift team) would be trained and appointed as competent persons in the release of trapped passengers from Lifts. With an SLA response time of 15 – 30 minutes.

In addition to this issue with respect to lifts, we discussed risk associated with the implementation of the WoS lifts service support framework contract, which NSGH will be obliged to adopt after the 2 year warranty expiration date. The risk relates to a 3rd party Specialist provider other than Schindler successfully wining this tender, whereby the 3rd party provider may not be competent to provide service support for the Lift Lobby vision service interface with the AGV system, this interface allows the AGV to communicate with and take control of the 10 Goods\housekeeping lifts assigned for AGV transport.
I have raised this concern with all the key players including WoS procurement team to ensure that we fully assess this issue when evaluation the Framework contract. Investigations are ongoing on this matter.

Energy Centre Operational Management:

Discussion over the ability to manage this service in-house which respect to the complexity and scale of operation?

There are several issues to consider in the area:

1. **Option 1: Outsource total energy centre management via an Energy Service Company (ESCo)**
    a. Indicative cost of a full ESCo including Capital replacement £,1020,000 - £1,275,000 Inc VAT, pending full evaluation.
    b. I have already raised this option with MAK 6 months ago, where it was agreed that it would not be viable to implement in time for project hand over?
    c. Mary Anne indicated that she would like to pursue this option with Alan

Gallagher, as part of the Boards Energy Strategy, I believe that they have had meetings with Mike Baxter, Scottish Government, Deputy Director Capital & Facilities on this option.

d. It should be noted that NHS GG&C are required to hold a PPC permit to operate under the Pollution Prevention & Control Regulations 2012, and for the purposes of this permit GG&C are the designated operators of the combustion processes within the Energy Centre, any change in design designated operator (under ESCo) would require amendment to permit with SEPA.

2. **Option 2: In-house Operational management of energy centre: (only option deliverable in time for Hand over date)**

   a. Operational management & day to day operation provided by dedicated energy centre\Laboratory Medicine Estates Manager supported by a Coordinating officer (see management strategy appendix 4, Organogram) Supplemented out of hours by 24/7 duty managers for emergency response management and control) All trained on:

      i. Boiler house & pressure systems management.
      ii. Chilled water systems operation & control.
      iii. HV Authorised Persons
      iv. LV authorised Persons
      v. HV Generator operation & monitoring
      vi. Fuel management.
      vii. Environmental impact training requirements.
      viii. All service infrastructure arrangements

   b. Supplemented by dedicated operational support team of 2 Electrical Technicians, 2 Mechanical Technicians, Supplemented out of hours by 24/7 emergency response team (rotary shift) all trained on:

      i. Boiler operator training.
      ii. Safe working with pressure systems.
      iii. HV Competent person (restricted duties).
      iv. LV Competent person.
      v. Boiler Failure 1st line Trouble shooting.
      vi. Chiller Failure 1st line Trouble shooting.
      vii. Fuel delivery\dispensing operator training.

   c. **Supported by a dedicated MA trained on:**

      i. Boiler operator training.
      ii. Safe working with pressure systems.
      iii. Fuel delivery\dispensing operator training.
      iv. Meter reading.
      v. Housekeeping.

   d. In-house Operational management: Will be augmented by the procurement of specialist support contract covering the key systems and services:

      i. **Boiler maintenance and support**
      ii. **Gas Safe service provider**

iii. **BMS Maintenance & Support**
iv. **HV generator Service& support**
v. **HV Switchgear Service& support**
vi. **SCADA Energy Network Management System**
vii. **Chiller plant service support**
viii. **CHP turnkey operation & management**

The budget cost for this combined level of support is circa £400K per annum (see appendix 7 for cost model).

It should also be taken into account that the energy centre has been designed with a high level of resilience, with a minimum n+1 plant capacity.

a. 3 off CHP units meeting site base load heating demand, under normal conditions 1 -2 units online (30% resilience)
b. 7 Boilers, under normal conditions with CHP online, 1 – 2 boilers required (60% resilience)
c. Chiller planet, 8 units (15% resilience at high summer peak load)
d. Power supply, 2 independent supplies, each capable of 100% duty. Both supplies need to fail before generators are required.
e. Generators , 10 units (20MW capacity), n+1 (10% resilience), with load shedding capability. Anticipated peak load 14MW (Nominal 30% resilience)

Note: In order to effectively address the training and familiarisation requirements for the Energy Centre at point of handover I would recommend that as part of the early recruitment process we should recruit a suitably qualified and experience boiler house managers for the Energy centre manager as well as his Co-ordinating officer, and at least 2 technicians and the MA, along with the 5 duty managers. Providing support to prepare and implement all maintenance contracts\procedures and PPM schedules in line with the conditions of PPC permit.

BMS\ERM we discussed the risks associated with the level of BMS integration Via the IT network across all building service systems, and the necessity to have effective, efficient and fully competent support in this area, the preferred option being to accept the Condition based monitoring maintenance proposal from the manufacturer installer (Schneider) particularly during the 2 year warranty period, whereby an ongoing development of our in-house team would bring our staff to a 1st line response level of competence. This would also give GG&C the opportunity to develop a Board wide BMS maintenance support strategy market testing of support capability. The annual cost of the BMS\ ERM manufacturer support is circa £225K per annum. See appendix 7

Regards

Ian

I. Powrie

Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,

2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX

[redacted]

From: Loudon, David
To: Gallagher, Peter; McCubbin, Alan
Cc: Archibald, Grant; Kane, Mary Anne; Curran, Anthony
Subject: RE: Formula Capital- prioritisation
Date: 06 August 2014 14:58:00
Attachments: 140804 14_15 Capital spend report.pdf

Peter,

I agree with your recommended approach to the meeting with Robert on 18th August.

I have also attached a copy of the current capital projects tracker prepared by the capital planning team. If you refer to Page 2, you will see that the Acute Formula is circa £1.343M unallocated at present which I guess is the figure you refer to as £1.2M. Let me know if you wish to discuss the allocation of the unallocated budget before the meeting on the 18th.

I have asked Tony Curran to prepare a progress report and related cash flows for the meeting on the 18th and it will be circulated in advance.

The next meeting of the joint capital planning and property group is scheduled for 27th August and it may not be the best use of time to have it so soon after the meeting with Robert. Can I suggest that we leave it in the diaries for now and take a view on the 18th.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: Gallagher, Peter [redacted]
Sent: 05 August 2014 11:02
To: Loudon, David; McCubbin, Alan
Cc: Archibald, Grant; Kane, Mary Anne
Subject: FW: Formula Capital- prioritisation

David/Alan,

we have a meeting with Robert in the next 2 weeks or so and the plan is likely to need adjusted I would suggest. In Formula terms we have reduced the Acute allocation from £12m to £8m and then double-whammed by not having separate lines for NSGH enabling and Laundry/Decontamination (Cowlairs) equipment. This has seen over £2m provisionally allocated against these lines from Formula at this point. In turn there is no HAI allocation yet, no AHU and no focussed allocations against PAMS requirements. Areas in GRI will require theatre upgrades etc for WIG closure/patient movements and again at this point no allocation. The remaining unallocated at circa £1.2m will not meet these needs.

We had already agreed a £1m separate line re the two equipment requirements on an annual basis and there will need to be a separate enabling line and/or charge against the £842m pot. Can I suggest that we add two lines to the plan, mark as TBC at this point in the value column , and tease out with Robert how he wishes to proceed going forward with these two specific areas.

Regards,

Peter

From: Kane, Mary Anne
Sent: 04 August 2014 17:11
To: Best, Jonathan; Harkness, Anne; Farrell, Marie; Hill, Kevin; Archibald, Grant; MacLennan, Aileen
Cc: McIntyre, Hazel; Gallagher, Peter
Subject: Formula Capital- prioritisation

As you are all aware Formula Capital Funds are extremely limited this year and as such the bids received from Directorates exceeds available funding.
It is therefore necessary for us to review the absolute necessity of all submitted projects in the context of timeframes to allow programming .
In order to do this I would be grateful if you could review the attached bids and divide them into three categories as follows

1. Projects that are essential to facilitate the delivery of the migration plan associated with the commissioning of the NSGH project. These are projects that were always known about and have key delivery dates and constraints but have not yet been funded.
2. Projects that are essential to deliver the ongoing strategy related to service redesign centred around the NSGH but do not have defined dates related to the migration plan and have not yet had funding allocated.
3. Projects that support that ongoing board strategies but are not constrained by time limitations.

In the attached spreadsheet you should complete within the priority column whether the project meets the 1,2 or 3 definition above. Timescale should also be completed in the

appropriate column to identify a timeline when the project requires to be delivered by .
Comments column is provided to allow any narrative you may wish to provide more detail on in support of the case .
Given that you should have been involved in the submission this will be discussed at the OMG on Thursday.
Completed returns must be with me by **close of play Wednesday to allow us to discuss this at** OMG and enable decisions to be made .
Regards
Mary Anne

From: Machell, Mandy [redacted]
Sent: 07 August 2014 10:01
To: Powrie, Ian; Brough, Katharine; Coleman, Margaret; Connelly, Karen; Connolly, Stephen; Gardner, Andrew; Hunter, William; Kane, Mary Anne; Kean, Gary; Macdonald, David; Magee, James; Matheson, Fiona; McCafferty, Annette; McGorry, Pat; McSweeney, Karen; Murray, Kate; Murray, Lorna; Stewart, Alan; Stewart, Robert; Wallace, Stephen; Young, Scott
Subject: FM Migration Planning Group - Papers for 15th August, 12 noon, Hillington Board Room
Attachments: Action Plan 180714 Update.doc; Agenda 150814.doc; FM Migration- Mins 180714 meeting ntes.doc; Risk Register.xls

Dear all,

Please see the additional papers required for next Friday's NSGH Workstream meeting that is starting at 12 noon in Hillington Board Room.

I had omitted to include Ian's comments in the rolling action list and these have now been modified.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde

[redacted]

[redacted] | www.nhsggc.org.uk

From: Powrie, Ian
Sent: 07 August 2014 08:42
To: Machell, Mandy; Brough, Katharine; Coleman, Margaret; Connelly, Karen; Connolly, Stephen; Gardner, Andrew; Hunter, William; Kane, Mary Anne; Kean, Gary; Macdonald, David; Magee, James; Matheson, Fiona; McCafferty, Annette; McGorry, Pat; McSweeney, Karen; Murray, Kate; Murray, Lorna; Stewart, Alan; Stewart, Robert; Wallace, Stephen; Young, Scott
Subject: RE: FM Migration Planning Group - minutes from 18th July

Mandy

I note you have issued the rolling actions minus my written update?

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Machell, Mandy [redacted]
Sent: 04 August 2014 16:46
To: Brough, Katharine; Coleman, Margaret; Connelly, Karen; Connolly, Stephen; Gardner, Andrew; Hunter, William; Kane, Mary Anne; Kean, Gary; Macdonald, David; Magee, James; Matheson, Fiona; McCafferty, Annette; McGorry, Pat; McSweeney, Karen; Murray, Kate; Murray, Lorna; Powrie, Ian; Stewart, Alan; Stewart, Robert; Wallace, Stephen; Young, Scott
Subject: FM Migration Planning Group - minutes from 18th July

Dear all,

Please find attached the minutes and rolling action list from the FM Migration Planning Group that was held on 18th July.

The next meeting is being held on Friday 15th August, **12 noon** (not 1pm - bring your lunch), in the Board Room at Hillington Contact Centre.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde

[redacted]

[redacted] | www.nhsggc.org.uk

FACILITIES DIRECTORATE
NSGH FM MIGRATION PLANNING GROUP
Friday 18th July 2014, 1pm, Boardroom, Hillington Contact Centre

---

Present

Karen Connelly [Chair]	Workstream Lead- FM Commissioning
Rob Anderson	Head of Finance
Pat McGorry	Workstream Lead - IT
Gary Kean	Workstream Lead - Supplies
Mandy Machell	Workstream Lead - Fire Safety
Jimmy Magee	Workstream Lead – Portering/Security, Helipad, Waste, AGV
Lorna Murray	Facilities Corporate Manager
David Macdonald	Site Facilities Manager
Steven Drummond	IT
Stephen Wallace	Head of HR Facilities
Margaret Coleman	Head of OD Facilities
Karen Mcsweeney	Workstream Lead – Telecoms –joined meeting at 2.
Ian Powrie	Workstream Lead – Hard FM –joined meeting at 5.
Scott Young	Workstream Lead – Travel, Laundry, Helpdesk, Cashiers –joined meeting at 4.

In Attendance
Katharine Brough Admin [*minutes*]

	ITEM	ACTION
1.	**Apologies** were received from MA Kane, W Hunter, R Stewart, A Mccafferty	
2.	**Matters Arising** All matters arising are covered by the agenda	
3.	**Notes of the last Meeting** The draft Minutes of the last meeting held on the 20th June 2014 were reviewed for accuracy. Amendments noted for 7. Finance Update page 5 £1million savings were hard FM with Soft FM target not yet agreed. Telecoms was **assumed** as cost neutral. RA had **spoken** with SY and this work is **being** completed.	
3.i	**Action Plan 160514** Action plan was reviewed and updated.	
4	**Project Update** KC informed group that project was on budget and on programme. At 21st July there was 27 weeks to building handover. Thereafter the 12 week commissioning period would commence with greater activity to be undertaken / incorporated. Detail of responsibilities was currently being worked out for resourcing etc. SLWG set up for Catering. KC updated group on demolition proposal of Catering dept. to enable multi storey car park. Patient catering service and retail service would move into	

	NSGH building earlier than first thought. In addition the Aroma cafe in Neuro would be closed during renovation works. KC noted this proposal would entail staff coming into 1st floor restaurant before building is operational. Logistics group to be established. 2 meetings held to date next 28th July. David Stewart chair with Directors attending. Version 8 migration planning document was under review.	
5	**Workstream Group Leads: Project plan / issues log update**	
5.1	**Laundry/ Travel / Cashiers/ Helpdesk Update:** SY noted no exceptions Car park induction. A MacPherson had revised her view and was comfortable with proposal if MAK is in agreement. Transport featured as part of FAQ. Staff Advisory Transport Group has HR staffside reps rather than management. SY had noted to HR that tt would be useful to have HR management representation. Car parking permits for SGH/VIC demitting sites was discussed. SY had agreed process goes ahead with validation expiry of March 2015. This had been discussed with M McCulloch, S Johnstone, F McGuire and Lesley Flynn. Risk of GGH staff having permit to August 2015 discussed and view taken that GGH staff affected by move to NSGH would be nominal and not within current permit holder group.	
5.2	**Portering/Security –** no exceptions/ slippage**.**	
5.3	**Procurement**: RS had submitted apologies. Procurement report to be uploaded to SharePoint site for group information. KC updated group on Removal tender. Site visits completed this week for interested companies. No reports of concerns arising for access/egress. SGH lift access was accepted as poor for movement of beds etc. Tender due back middle August. RA noted previous meeting minute mentioned tender costs were not covered in project budget, whereas RS had stated costs were to be borne from project budget. KC reported that whilst no sum had been set aside in project budget. It was her understanding it will be found from project budget. RA noted priority to define overall cost. KC accepted level of detail required to inform bids was not yet available	
5.4	**Supplies**: No exceptions. Ward storage group progressing to identify stock levels, Follow up meeting Fri 25th July with Oct/Nov deadline to finalise. GK attended site visit. Comment that paediatrics had infection control issues. GK noted need for concerns on capacity need to be quantified and explained. A procurement meeting with desktop delivery supplier spectrum to be held to clarify delivery arrangements at SGH/NSGH. GK to schedule with B Hunter and JMagee. Suggested route into Hillington or restriction to one delivery day for stationery. SY front doors not an option. J Magee noted use of service yard.	GK
5.5	**Fire**: MM reported tasks due to breach from project plan arising from paper submitted in Feb 2014.	

	Implications for FRA and any required tendering has been raised. MM noted distinct benefits of in house. D Louden had raised concerns relating to FRA liabilities for governance should contractors progress this work. MM to confirm liability in this regard. MM noted building strategy need for wardens throughout the stack and resource requirements. MM scoped options using catering staff level 1, use of flash cards. Ground / 1 involved 40 warden requirement. Recommendation all facilities staff to be trained. MM had submitted options proposal whereby ward staff would act as Fire Alert Team wardens. Fire alert teams would be required for communal areas. MM expressed concern on efficacy of Fire Alert Teams in current configuration due to compartmentalisation of new building, travel time to reach higher levels and resource implication. Discussion occurred on resetting fire panels. MM noted distribution of Fire extinguisher placement had a resource implication. Fire officers to be considered to attend estates training. FRA activity on demitting sites. Noted need for HR to speak to Fire officers. Workplans have been signed off for last year at sectors.	MM/KC
5.6	**IT**: SD noted awareness meetings continuing Application Project plan uploaded onto SharePoint. Room data analysis underway for interface testing (DMT & FM First) Monklands visit Review of Adult Patient Entertainment scoring due 21st July. IT also had been involved in Endoscopy washer/dryers tender which was on target end August.	
5.7	**Telecoms** – No exceptions	
5.8	**Estates:** With 6 Months to go till formal handover, IP is seeking the production of an output report from the migration workbooks regarding transfer equipment installation requirements, to allow for the development of a supporting programme for the disconnection from services of transfer equipment & re-install at the final destination. This has been raised at the equipment group. IP has raised concerns with West of Scotland procurement team regarding the capability of limited competition 3rd party service providers within the National Framework contract to support the lift lobby vision server control interface with the Swisslog AGV system, recognising that this is a mission critical single point of failure in the delivery of AGV services to the building. WIP regarding establishing: • West of Scotland procurement, Lift Maintenance framework, participants, scope Lobby Vision support capabilities? Required for adoption of framework in year 3. • Establish Brookfield contractual lift service provision\AGV interface maintenance protocol during 2 year warranty period? Enquiry to Lift Manufacturer regarding current 3rd party providers lobby	

	vision support capability (training and software access rights)	
6	**HR Update**: SW confirmed Estates process on target in terms of programme. 9/10 staff remaining at WIG. 70 staff to go through selection/ 1-1 meetings. Matching process scheduled for 28th July to be confirmed. For all other FM services SW currently reviewing current and proposed establishment figures. Staffside meetings ongoing. PVG checks for paediatric an issue for staff working across 2 sites. HR to pick up. Discussion occurred on need /options redeploy those who do not attain PVG. KC raised query in relation to Helipad response/ Security team. HR to consider how matching apply to these posts for such new, specialised roles. Recruitment process to reflect this. KC/JM need to set timescales. SW stressed importance of timings Helipad to be operational as soon as A&E is in situ. [end April staff to be operational incl. training / test flights for CAA approval.] KC advised Occ Health involved due to criteria of staff and fitness levels required.	KC/JM
7	**Finance Update** RA updated group commending DMacd on work collating decommissioning figures. Boards assumption want to keep £8-10m savings from 203/14 to go into next financial year with option to draw down from it. RA noted need for managers to initiate further discussions should they intend to spend money this year. This was required to build case for board approval. RA accepted full details of double running to be clarified and advised MAK/BH/RA/SW would meet to review proposed rotas with managers to sign off final version. No update on levels of further savings.	**MAK/BH/ RA/SW**
8	**Decommissioning** DMacdonald had completed overview of non pay and pay. Mgt Campbell liaising with Scottish Futures Trust for options to offloading assets. First draft completed for demitting sites equipment. Domestic/Portering/Estates/ Security resource identified. Discussion occurred on Macquaker/ Queens Park house and plan to keep these buildings. Move switch at WIG? Proposal to retain Yorkhill discussed and Telecoms benefit from no need to relocate switch. KMcS question on option for Yorkhill. Out-patients at Yorkhill and Admin staff for Queen Mums Discussion occurred on residuals including asbestos and fabric at Yorkhill tower on different levels. It was noted residencies do not have wiring.	
9	**Risk Register** Register was discussed. No new risks identified.	

10	**Communication** Workforce change communication sessions to be mapped out by HR.	**SW**
11	**Migration Executive Group** Minutes from last meeting had been circulated to the group.	
	AOCB KMcSweeney updated group that telecoms had been involved in moving Virttu Biologics, private company from Neuro to Labs bldg, WIG as temporary measure. KMcS advised GGC had need to observe 6 month notice as agreed with R Calderwood. Details to be passed to DMacdonald to progress. P Fairie was the University Contact. RA noted capital planning had requested details on leases, including retail, WRVS. No further business reported.	
	Date of Next Meeting: 15th August 2014 at 12 noon, within Boardroom, Contact Centre, Hillington Apologies noted for L Murray	

From:	Dickson, Selina
To:	Archibald, Grant; Best, Jonathan; Brown, Joyce; Crumley, Ann; Farrell, Marie; Gallagher, Peter; Harkness, Anne; Hill, Kevin; Kane, Mary Anne; MacLennan, Aileen; Stewart, David
Cc:	Pender, Jonathan; Farrelly, James; Hardy, Jennifer; Ferguson, Colleen
Subject:	Managing Workforce Change
Date:	11 August 2014 16:32:50
Attachments:	Managing Workforce Change Senior Appointments - Application Letter V5 8th Aug 14.doc Managing Workforce Change Senior Appointments - Application Pack 10th Aug 14.doc Nursing Workforce 85-95 Hybrid Version.doc New South Glasgow Hospitals Workforce Plan v2.0 August 2014.docx On the move maigration cover process SCN(2).doc Letter 1 - Initial Contact - 1.2 12.06.14.doc Letter 2 - Matched by Selection 1 3 09 07 14.doc letter 3 - Selected by Interview 1.3 09.07.14.doc Letter 4 - matched to post 1.3 09.07.14.doc Letter 5 - matched directly 1.1 30.06.14.doc
Importance:	High

Dear Colleagues

At the Migration Executive Group on Thursday I highlighted several actions which will be taking place over the coming weeks to commence the Workforce Migration Process. I indicated that some of this information may not have been shared with Directors or General Managers. As such I now enclose for your attention a range of documents which have either been explored through the Lead Director for Acute and Boards Nurse Director and through the Human Resources Sub Group, Workforce Advisory Group, Heads of Nursing and Lead AHP.

Nurse Model Paper
The attached paper was discussed with the Full Time Officers of Unison and the RCN, it would be fair to say there is still anxiety regarding the numbers contained within the paper and there is ongoing discussion with the Boards Nurse Director. The paper only covers inpatient areas and there is further work still to be concluded regarding theatres, critical care and outpatients. This paper was concluded to provide data for the New South Hospital. There is however an expectation that a further piece of work will be led by the Nurse Director to produce a Glasgow/Clyde Nurse Model by the end of September 2014.

Correspondence to Staff
The attached pack of letters has been agreed by the HR Sub Group and the Workforce Advisory Group to be used by all areas affected by change. The letters are currently in use within the Estates team and should we find a need to modify them at the end of this process amended correspondence will be issued. The letters are based on previous correspondence used with other areas of service change within the Board, the letters have been signed off by the key trade unions involved in the change programme.

A further set of correspondence relating to the senior matching process has been discussed with the staff side, enclosed for your information is the current draft of this documentation which will be concluded in time to issue letters to Senior Charge Nurses, ED Consultants and any other area that highlights they are now ready in terms of senior staff movement. The aim is to have as minimum disruption as possible and to have a preference model with as many individuals matched and only if matching is not possible will a more formal selection process take place. It has already been agreed through the Heads of Nursing and with representatives from Unison and RCN that 3 Lead Nurses have been nominated to support the Senior Charge Nurse process should we require to move to selection interview stage. The 3 identified Lead Nurses are Fiona Smyth, Geraldine Marsh and Sally Hughes, this is being supported by all the Heads of Nursing.

Also attached is a further document regarding Senior Charge Nurses headed Cover Proposal Arrangements for Senior Charge Nurses
It is recognised that whilst we will be allocating individuals to posts by the 31st October 2014 these individuals have existing roles and will be required to deliver a service until such times as their ward area moves. As such this short paper emphasises the fact that the individuals will continue in their roles but may need to undertake additional tasks to support the change programme as the wards integrate. Directors may wish to consider that at an appropriate time some of these individuals may

require further protected time to support the change programme. We are not however recommending that this is uniform across the Division and is more on a needs basis.

Workforce Plan
A further refined version of the Workforce Plan is also attached.

I would appreciate if you and your General Managers could consider the plan in detail and highlight to me any changes and assumptions from the earlier versions of the plan to ensure that it most accurately reflects the current positions within your Directorate as this version of the plan will be signed off with Staffside and the Chief Executive within the coming weeks as the most up to date baseline. The plan only reflects approved and funded posts. Any developments will require to be prepared as business cases.

If you have any queries or concerns regarding any of the attached paperwork please don't hesitate to contact me direct.

Anne MacPherson
Workforce Director

New South Glasgow Hospitals

Summary of the Energy and Metering Issues August 2014

Executive Summary

From an early stage in the procurement of the New Southern General Hospital and New Labs it has been the aim of NHSGGC to procure a low carbon energy efficient development.

Ecoteric have been employed by the Board to assess and assist in developing and implementing the strategy and this report summarises the position of the development towards the end of the construction period of the Adults and Children's Hospitals and after 2 years of operation of the Labs.

The Employers' Requirements which have driven the design of the New Southern General Hospital in terms of achieving a low carbon outcome have been monitored throughout the design and construction period by regular evaluation of the calculated energy model and the design and procurement has been tested against this model.

This report summarises the process, the energy model outcome and outstanding issues which need to be addressed.

As it stands in version B of the TUV SUD Wallace Whittle Carbon Report – Stage 3 Final Design & Procurement ZBP-XX-XX-DC-600-38,

- The model developed for the Adult and Children's Hospital is 77.35kgCO2/m2/year.
- This model does not currently encompass the laboratories building. This was designed prior to the appointment of Ecoteric and a less detailed model undertaken. It was therefore agreed that the actual energy consumption of the labs would be used to integrate the two buildings in terms of assessing the final energy and carbon emissions.
- When the labs actual energy consumption is included, as discussed in following sections, the total predicted operational consumption is **82 kgCO2/m2/year**,
- The above figure assumes a total area of the labs of 25,000m^2, and does not include the area of the energy centre.
- The other parameters of the Employer's Requirements have been met which are EPC Scotland B (28) and EPC England and Wales (for the purposes of the BREEAM score) A (23)
- Compliance with the NHS targets of 55GJ/100m^3 per annum are not confirmed in the above report, but were in previous versions for example, version 3.2, which stated that "the energy model is currently showing the building's energy consumption at 40.2 GJ/100m3/year and the CO2 emissions at 78.8 kgCO2/m2/year". It can therefore be safely assumed that the NHS target has been bettered.

There have been issues with the ability to derive reliable readings from the metering system which reports to the Schneider electronic platform know as the ERM system. Meters have been replaced and all meters have been reading to the system from April 2014, but there are still reconciliation issues as detailed in this report. In conclusion, there are still issue which need to be resolved to enable the operational energy target to be proved.

There is a current proposal to use the updated Schneider EO system to monitor the meters and this system certainly improves the functionality of the software. However, proof of accuracy and reliability of the supporting network of meters and IT interfaces is still essential before the metering system and its monitoring software is accepted by the Board.

Data in 2013 showed the labs well in excess of predicted energy consumption and affecting the overall target, raising it to 84kgCO2/m^2. This has now reduced to 82 kgCO2/m2/year. Comparable energy consumption is as follows:

	Labs actual energy consumption for 12 months September 2012-August 2013 from ERM kWh	**Labs actual energy consumption for 12 months July 2013-July 2014 from ERM** kWh
Fossil Fuel	5,850,429	4,237,221
Electrical	4,844,133	4,580,605
Total	10,694,562	8,817,826

The energy consumption has improved since 2012-2013 particularly the gas, but more recent figures show a rising trend in consumption and this needs investigation to prevent the overall target being further affected.

The major variances from predicted energy consumption are the heating and cooling. Gas energy use remains excessive. Further analysis and audit of the labs building is required.

There are still problems with the metering with large discrepancies in gas readings and moderate discrepancies in electrical metering. Further action and investigation is needed.

All previous comments made by Ecoteric on the TUV SUD Energy Model report have been addressed in the current version, with the exception of the inclusion of the Labs Energy Consumption which has been a consistent issue and which TUV SUD (Wallace Whittle) formerly ZBP have declined to address. This report (by Ecoteric) includes data which addresses this shortfall; however, the ultimate responsibility for addressing this shortfall remains with Brookfield Multiplex.

In conclusion, although the Adults and Children's Hospital model meets the target, the overall development when the labs are included does not. Action is needed which should be the subject of the September low carbon meeting.

1. Intent of the process

During the design development of the new hospital facilities, it was the clear intention of the Board team to deliver a sustainable and energy efficient facility. This was in line with the intent of the Scottish Government and the directives of the NHS, and Health facilities Scotland. From this point, the key objectives in terms of carbon, energy and sustainability were developed with the board advisory team and Employers Requirements were developed to be used as the basis of the competitive dialogue and the design.

2. Carbon Trust Support

The Carbon Trust was approached for assistance and guidance and placed a consultant, Susan Logan of Ecoteric Ltd. with the scheme from the time when the exemplar design was being developed and the Board advisory team appointed. Throughout the procurement and design process, the Carbon Trust part funded Susan's fees and funded discrete additional pieces of work such at the labs metering strategy and a study on the viability of waste heat to the whole site. The Board has in the past and continues to fund the remainder of Susan's input.

3. Key Features of the Employers' requirements

The key tenets of the Employers requirements are:

- A design energy target equating to A Scottish EPC B and England and Wales and Asset rating of 40
- BREEAM Excellent
- The operational energy target of 80kgCO2/m^2 per annum as measured at the incoming energy meters to the energy centre and taking into account the emissions from the actual performance of any CHP plant which may be installed when calculating and measuring electrical consumption.
- Incorporate a resource efficient design; including at least 10% recycled content

Emphasis was placed on the continuity of the process throughout design and construction and on the importance of these issues to the Board. The tenderers were instructed that the energy and sustainability had to form a fundamental keystone of the contractor's proposals and are significantly influenced by the Building Design Solution.

Within the sustainability section of the ER's, there is design guidance and sub targets intended to steer the design team, whilst not intending to be an absolutely prescriptive specification. The main issue is that the targets are met and the detail sections are stepping stones and check points to get to the target.

4. Procurement Process

At the tender stage, the low carbon design tracker was introduced as the key management tool for the process.

The sustainability and low carbon designs were fundamental to the design quality evaluation of the project and bids were scored significantly on these aspects.

Of the three bidders who took part in the competitive dialogue and who returned submissions, the highest scoring bid in the energy and sustainability section was Brookfield Multiplex. They exhibited a willingness and ability to work with the targets set within the employers requirements and to balance the demands of the targets with the other critical design and budget constraints.

5. Process through design and construction

The contractor was required to implement fully an integrated approach to low carbon design. In summary this is as follows:

- Project plans to include requirements for low carbon design, energy targets and auditing at key stages.
- Set and record a design and operational energy target
- Undertake calculation and modelling of the target at key stages
- Cooperate with monitoring and review mechanisms for the design and operational energy target
- Use a design monitoring tool such as a tracker to ensure the brief is being adopted.

Formal reporting on the energy targets was required at the following key points

- Façade development and 1:100 layouts
- Early detail design/ full business case: once the façade is set and layouts are reasonably agreed, the full model should be built.
- Late detail design: the contractor must confirm through revision to the above model that the design meets the design and operational energy targets
- Late construction – the as built model should be produced which will provide the final EPC and the operational target confirmed based on actual equipping.

At each of the above reporting stages, a check on the operational energy target was required. We are now at the stage where the late design stage model has been completed.

The BREEAM assessment has achieved “Excellent” at Design stage and Brookfield are in the process of gathering information for the Post Construction Review which is necessary to confirm the rating.

At each stage, the reports have been reviewed and where possible and necessary, changes made to improve the model.

6. Gains during the Process

The involvement of Ecoteric has kept the energy and sustainability issues within the mainstream agendas of the design and procurement process. Through the mechanism of the tracker and the low carbon meetings, there has been a forum to challenge and debate the design and to promote more efficient design. Notable gains include:

- Review and improvement of cladding U values
- Efficient glazing selection, maximising heat retention on northern facades whilst optimising for reduction of heat gain on other facades
- Whole life cost approach to major plant and equipment selection
- Extensive use of lighting controls
- Changes to ventilation heat recovery to use most efficient methods
- Improvements to metering strategy
- Studies promoting the viability of waste energy connection for the site.

Future and current issues under debate are:

- Evaluating the controls proposals and controls commissioning to maximise efficiency
- Working with the proposed contractor's energy manager and the estates team to make sure that the staff has confidence in the metering system
- Working with the estates team to promote understanding of the energy issues and design intent
- The current status of the model as described below

7. Whole Life Costing Approach

An overall whole life cost model was prepared at tender stage for the whole building but in addition to this, component level whole life evaluation was required.

It was established that this would apply to major building services plant.

The methodology used was a tool produced by Forum for the Future. This was intended to capture capital cost, maintenance costs, consumables, utility costs and end of life costs.

It was agreed that Mercury Engineering would tender to a long list of suppliers but obtain the whole life information from the three lowest who met the performance standards for the equipment and that this would be presented to the Board.

The responses and standard of information returned was patchy and at times difficult to compare therefore the process was simplified to encompass capital, maintenance and utilities only. Nonetheless, the process resulted in the selection of:

Chillers: Not the lowest first cost of plant, but lower energy costs due to better efficiency.

Boilers: Lowest first cost but very similar operational costs between the lowest 3 and best control options.

Pumps: Pumps with best operational characteristics in terms of turn down and high efficiency motors.

UPS: lowest first cost and lowest operating cost.

Air Handling Units: detailed consideration of fan types and incorporation of more efficient direct drive where acceptable from a clinical point of view, choice of more energy efficient filter supplier

CHP Units: detailed evaluation of the maintenance costs and utility costs as these far outweigh the capital cost over the life of the plant. The supplier chosen did offer the lowest first cost but also the lowest maintenance cost and the most efficient plant.

Other items were not evaluated in detail but were found to be best practice in terms of energy efficiency – for example, transformers and the children's hospital TV system. A review of catering equipment was undertaken and where available, efficient equipment was selected.

8. The current status of the energy model

As it stands in version B of the TUV SUD Wallace Whittle Carbon Report – Stage 3 Final Design & Procurement ZBP-XX-XX-DC-600-38,

- The model developed for the Adult and Children's Hospital is 77.35kgCO2/m2/year.
- This model does not currently encompass the laboratories building. This was designed prior to the appointment of Ecoteric and a less detailed model undertaken. It was therefore agreed that the actual energy consumption of the labs would be used to integrate the two buildings in terms of assessing the final energy and carbon emissions.
- When the labs actual energy consumption is included, as discussed in following sections, the total predicted operational consumption is 82 kgCO2/m2/year, assuming total area of the labs of 25,000m^2, and not including the area of the energy centre.
- The other parameters of the Employer's Requirements have been met which are EPC Scotland B (28) and EPC England and Wales (for the purposes of the BREEAM score) A (23)
- Compliance with the NHS targets of 55GJ/100m^3 per annum are not confirmed in the above report, but were in previous versions for example, version 3.2, which stated that "the energy model is currently showing the building's energy consumption at 40.2 GJ/100m3/year and the CO2 emissions at 78.8 kgCO2/m2/year". It can therefore be safely assumed that the NHS target has been bettered.

9. Labs Energy Usage

It has been difficult to obtain clean data for the labs owing to meter software issues. This was the subject of a report undertaken by Ecoteric at the start of 2013. Data at that time obtained from fiscal meters showed the labs well in excess of predicted energy consumption and affecting the overall target, raising it to 84kgCO2/m^2. This has now reduced to 82 kgCO2/m2/year. The meters have been reading more reliably since April 2014 but there was a complete loss of data as described below and therefore in determining 12 months data for the labs to arrive at the 82 kgCO2/m2/year given above, pro-rata figures were used for these three months.

Comparable energy consumption is as follows:

	Labs actual energy consumption for 12 months September 2012-August 2013 from ERM kWh	**Labs actual energy consumption for 12 months July 2013-July 2014 from ERM** kWh
Fossil Fuel	5,850,429	4,237,221
Electrical	4,844,133	4,580,605
Total	10,694,562	8,817,826

However, there were known issues relating to overheat and additional equipment. Measures to address overheat were installed.

The energy consumption has improved since 2012-2013 particularly the gas, but more recent figures show a rising trend in consumption and this needs investigation to prevent the overall target being affected.

The current consumption for the various end uses are summarised below:

Electrical

	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual
	total chillers and heat rejection	total chillers and heat rejection	fans and pumps kWh	fans and pumps kWh	Artificial Lighting kWh	Artificial Lighting kWh	Equipment kWh	Equipment kWh	TOTAL ELECTRICAL LOAD	TOTAL ELECTRICAL LOAD
TOTALS kWh	87,000	477,015	724,000	770,311	823,000	767,184	1,672,000	1,505,088	3,306,000	3,519,599

Gas

	Predicted	Actual
TOTALS kWh	1,864,000	3,918,073

From the above, the major variances are clearly the heating and cooling.

The cooling energy use appears to indicate that use of free cooling from outside air is not the primary source of cooling and that the chilled beams are consuming a lot more energy than predicted. Overheat problems were identified and systems were being used 24 hours per day but this has now been resolved. More equipment than envisaged was installed, although the net resultant energy use of equipment is less than predicted. This has changed since analysis was undertaken late 2013 and uplift of the target due to equipment energy use is not now justifiable.

Gas energy use remains excessive. Gas boilers are consuming substantial amounts of energy at weekends, overnight and in summer. This is likely to be primarily due to controls rather than usage and needs further investigation. At this time, uplift of the target is not justifiable.

Although lighting is not exceeding the predicted energy consumption, there are considered to be opportunities for lighting energy reduction.

Further analysis and audit of the labs building is required.

10. Metering Issues

There have been issues with the ability to derive reliable readings from the metering system which reports to the Schneider electronic platform know as the ERM system. Meters have been replaced and all meters have been reading to the system from April 2014, but there are still reconciliation issues as detailed below. There was a complete loss of data for 3 months. In conclusion, there are still issue which need to be resolved to enable the operational energy target to be proved.

There is a current proposal to use the updated Schneider EO system to monitor the meters and this system certainly improves the functionality of the software. However, proof of accuracy and reliability of the supporting network of meters and IT interfaces is still essential before the metering system and its monitoring software is accepted by the Board.

Gas Meters – Labs

After investigation and taking of some manual readings there remain unresolved issues with labs gas metering. The conclusions are:-

- Manual readings from the labs gas boilers correlate well with the individual boiler meter readings from the ERM system (2.44% variance overall)
- The summation of the labs gas boiler meter readings from ERM matches a manual summation of the individual boiler readings from ERM
- The main labs gas boiler meter reading is half the sum of the boiler readings for a small study period of 9/7/14-1/8/14 i.e. 100% variance
- This variance is not consistent. The overall variance on the ERM between the main labs gas meter and the summation of the boiler meters for all readings is 400% but this is unreliable due to the difficulties with the meters reading to the ERM.
- However, if we consider just the period from April where it was reported that all meters were reading to ERM correctly, we can see that the variance has ranged from 160% to over 200%.
- The conclusion for this is that the main gas meter to the labs appears to be unreliable and cannot be used for meaningful record of gas consumption.
- It is not impossible that the individual boiler meters are highly variable, but it would be expected that this would amount to no more than one or two “rogue” meters and this has not been observed on the ERM nor would this cause this level of variance.
- The individual gas meters do seem to be reliable and the summation of these can be used to determine the heating gas consumption.
- There is therefore have no means of determining the labs process gas consumption but this is not considered to be particularly significant.

Gas Meters – Main

In terms of the reconciliation of the boiler readings to the fiscal readings, there is again a major discrepancy. This is currently in the Board’s favour if the individual gas meters are to be believed but does not help establish accurate energy use and could give rise to dispute when the hospitals are operational.

Gas Meters – Conclusion

It is likely that independent field testing of a proportion of the sub meters is required as a first step, and potentially accuracy testing by the supplier of the fiscal meter.

Electrical Meters – Labs

Further variances were found in electrical metering. Generally electrical metering has been found to be reasonably accurate and has read more reliably to the ERM. However, this variance is outside tolerance and needs to be investigated. It is possible that some sub meters are not reading to the system or that the summation is not correct.

Comparison total summated electrical meters and main board meters April –June 2014

meter description	Total Consumption kWh
Combined Lighting & Power Boards	34,184
IT and Comms Electrical Load	25,524
Lighting Electrical Load	209,248
Major Equipment Electrical Load	119,528
Small Power and Equipment Electrical Load	262,295
HVAC Electrical Load	226,202
Whole Building Cooling Electrical Load	118,742
Total	995,724

Whole Building Electrical Load April –June 2014

Reading Date	Total Consumption kWh
April 2014	391,335
May 2014	405,684
June 2014	414,881
	1,211,900
Variance	216,175.76

There is no data as yet on the main hospitals or energy centre metering as these are still being commissioned.

11. Operational Energy Issues

Within the employer's requirements, provisions were made for a continuing involvement by the main contractor to:

- Undertake training and awareness of energy issues relating to the building shall be given by the contractor to the building users and the maintenance staff

- Operational energy shall be measured and reported for every 3 months for 3 years from occupation of the building by the contractor with weather normalisation undertaken by reference to an agreed thermal model containing actual weather data for the year in question.

- Should operational energy be found to exceed predicted operational energy, then investigation and remedial action will be required to be undertaken by the contractor

- Employ an energy manager to the project – this was originally for three 3 years but it is understood that this was reduced to 2 years during the tender negotiations to align with the defects period.

These activities are considered as vital to the transition from the construction contract to the operational phase and to prove in operation that the energy targets have been met. An independent overview from Ecoteric would be valuable in this process, as it has been in the past.

12. Adjustment to the target

The intention is that the hospital and labs achieve the operational target. However, circumstances may change due to longer operational hours, more equipment than expected, severe weather and there needs to be a mechanism to uplift the target in these circumstances.

It is possible that the systems and buildings do not perform as expected and that the target is exceeded and there also needs to be a mechanism for corrective action.

Both of these instances were negotiated at tender stage and in the early design stages and the outcome is recorded and appended to this report.

In both instances, there will be a need for collection of relevant data, evaluation of the circumstances and if not readily resolved, advice on the best course of action.

The current energy consumption of the labs was used to evaluate whether there was a justification for uplift of the target at present but as described, this is not considered to be appropriate at this time and investigation and rectification of heating and cooling controls is recommended.

13. Review of the Energy Report and discharge of comments

All previous comments made by Ecoteric on the TUV SUD Energy Model report have been addressed in the current version, with the exception of the inclusion of the Labs Energy Consumption which has been a consistent issue and which TUV SUD (Wallace Whittle) formerly ZBP have dedclined to address. This report (by Ecoteric) includes data which addresses this shortfall, however, the ultimate responsibility for addressing this shortfall remains with Brookfield Multiplex.

The objectives of the review were overall to determine if the energy targets set in the Employer's Requirements look likely to be met. To do this it was necessary to determine that:

1. The methodology meets the intent and detail of the Employer's Requirements
2. The assumptions made are reasonable and reproducible in practice
3. The calculations are, as far as can be determined, as accurate as possible
4. That the levels of risk and uncertainty are clearly identified and are acceptable
5. The results indicate that the building will meet the operational energy target

14. Summary of report

1. **Objective 1 The methodology meets the intent and detail of the Employer's Requirements**

The model does not meet the Employer's requirements as it is not fully dynamic, however, the methodology was accepted and agreed as fully dynamic modelling of complex building services systems was beyond available technology for this size of scheme. The modelling is therefore a hybrid of dynamic building modelling and Excel spreadsheets for systems.

2. **Objective 2 the assumptions made are reasonable and reproducible in practice**

The assumptions are generally acceptable.

3. **Objective 3 The calculations are, as far as can be determined, as accurate as possible at this stage in the design**

The accuracy has improved and is believed to reflect the as built status, with systems correctly allocated to rooms. The internal layouts may have deviated from the geometry of the model, but it was agreed that this was unlikely to be significant in terms of the results. The model will be modified when the results of the air test are known.

4. **Objective 4 The level of risk and uncertainty is acceptable**

Risk and uncertainty has been addressed and the significance identified

These key factors include sensitivity testing. The most significant risks reside with equipment and usage

5. **Objective 5 The results indicate that the building will meet the operational energy target**

The results are highly marginal and are affected by the Labs consumption and potentially metering accuracy. Consistent review and management is needed. The results show that as far as can be predicted, the development is currently not meeting the operational target of 80kg/CO_2/m^2/annum when the Labs are included and that action is needed to reduce the energy consumption in the Labs.

From:	Dickson, Selina
To:	Archibald, Grant; Best, Jonathan; Brown, Joyce; Crumley, Ann; Farrell, Marie; Gallagher, Peter; Harkness, Anne; Hill, Kevin; Kane, Mary Anne; MacLennan, Aileen; Stewart, David
Cc:	Pender, Jonathan; Farrelly, James; Hardy, Jennifer; Ferguson, Colleen
Subject:	Managing Workforce Change
Date:	11 August 2014 16:32:50
Attachments:	Managing Workforce Change Senior Appointments - Application Letter V5 8th Aug 14.doc Managing Workforce Change Senior Appointments - Application Pack 10th Aug 14.doc Nursing Workforce 85-95 Hybrid Version.doc New South Glasgow Hospitals Workforce Plan v2.0 August 2014.docx On the move maigration cover process SCN(2).doc Letter 1 - Initial Contact - 1.2 12.06.14.doc Letter 2 - Matched by Selection 1 3 09 07 14.doc letter 3 - Selected by Interview 1.3 09.07.14.doc Letter 4 - matched to post 1.3 09.07.14.doc Letter 5 - matched directly 1.1 30.06.14.doc
Importance:	High

Dear Colleagues

At the Migration Executive Group on Thursday I highlighted several actions which will be taking place over the coming weeks to commence the Workforce Migration Process. I indicated that some of this information may not have been shared with Directors or General Managers. As such I now enclose for your attention a range of documents which have either been explored through the Lead Director for Acute and Boards Nurse Director and through the Human Resources Sub Group, Workforce Advisory Group, Heads of Nursing and Lead AHP.

Nurse Model Paper
The attached paper was discussed with the Full Time Officers of Unison and the RCN, it would be fair to say there is still anxiety regarding the numbers contained within the paper and there is ongoing discussion with the Boards Nurse Director. The paper only covers inpatient areas and there is further work still to be concluded regarding theatres, critical care and outpatients. This paper was concluded to provide data for the New South Hospital. There is however an expectation that a further piece of work will be led by the Nurse Director to produce a Glasgow/Clyde Nurse Model by the end of September 2014.

Correspondence to Staff
The attached pack of letters has been agreed by the HR Sub Group and the Workforce Advisory Group to be used by all areas affected by change. The letters are currently in use within the Estates team and should we find a need to modify them at the end of this process amended correspondence will be issued. The letters are based on previous correspondence used with other areas of service change within the Board, the letters have been signed off by the key trade unions involved in the change programme.

A further set of correspondence relating to the senior matching process has been discussed with the staff side, enclosed for your information is the current draft of this documentation which will be concluded in time to issue letters to Senior Charge Nurses, ED Consultants and any other area that highlights they are now ready in terms of senior staff movement. The aim is to have as minimum disruption as possible and to have a preference model with as many individuals matched and only if matching is not possible will a more formal selection process take place. It has already been agreed through the Heads of Nursing and with representatives from Unison and RCN that 3 Lead Nurses have been nominated to support the Senior Charge Nurse process should we require to move to selection interview stage. The 3 identified Lead Nurses are Fiona Smyth, Geraldine Marsh and Sally Hughes, this is being supported by all the Heads of Nursing.

Also attached is a further document regarding Senior Charge Nurses headed Cover Proposal Arrangements for Senior Charge Nurses
It is recognised that whilst we will be allocating individuals to posts by the 31st October 2014 these individuals have existing roles and will be required to deliver a service until such times as their ward area moves. As such this short paper emphasises the fact that the individuals will continue in their roles but may need to undertake additional tasks to support the change programme as the wards integrate. Directors may wish to consider that at an appropriate time some of these individuals may

require further protected time to support the change programme. We are not however recommending that this is uniform across the Division and is more on a needs basis.

Workforce Plan
A further refined version of the Workforce Plan is also attached.

I would appreciate if you and your General Managers could consider the plan in detail and highlight to me any changes and assumptions from the earlier versions of the plan to ensure that it most accurately reflects the current positions within your Directorate as this version of the plan will be signed off with Staffside and the Chief Executive within the coming weeks as the most up to date baseline. The plan only reflects approved and funded posts. Any developments will require to be prepared as business cases.

If you have any queries or concerns regarding any of the attached paperwork please don't hesitate to contact me direct.

Anne MacPherson
Workforce Director

DRAFT – HR SUB GROUP V5 @ 8th AUG 14

HUMAN RESOURCES
Ground Floor
Management Building
Southern General Hospital
Govan Road
Glasgow
G51 4TF

Enquiries to: Jennifer Hardy
Extension:
Direct Line: [redacted]

Date: Friday, 15 August 2014

STRICTLY PRIVATE & CONFIDENTIAL

NAME
ADDRESS

Dear NAME

MANAGING WORKFORCE CHANGE FRAMEWORK – SENIOR CHARGE NURSE MATCHING PROCESS

NHS Greater Glasgow & Clyde is undergoing an unprecedented period of change in preparation to our moves to the New South Glasgow Hospitals (NSGHs). Through our workforce planning process, we have identified the need to ensure all senior post holders are allocated posts in the structure.

I write to confirm the arrangements we are putting in place for the matching process in relation to Senior Charge Nurses.

This letter and the accompanying information pack sets out the detailed arrangements for the first phase of the senior charge nurse process and highlights the matching and selection process that will be deployed. These arrangements have been fully discussed and agreed in partnership with the relevant staff side representatives and follow the principles set out in the NHS Greater Glasgow & Clyde Policy on Managing Workforce Change and the On The Move Managing Workforce Change Framework.

There will be an overall reduction in the number of wards transferring to the New South Glasgow Hospitals (NSGHs) and as such the Senior Charge Nurse posts are deemed “at risk”. All the available Senior Charge Nurse posts are attached (Appendix A) for your

consideration and we would ask that you indicate your preferences in the pro-forma (Appendix B).

Should you identify a post where no others have noted an interest, you will be matched to that post and allocated the post from 3rd November 2014. However where a number of individuals indicate the same post preference, a selection process will be undertaken. This will involve three Lead Nurses from the Acute Services Division. Details of the Lead Nurses involved are noted below:

Fiona Smyth, Surgery & Anaesthetics
Sally Hughes, Emergency Care & Medicine
Geraldine Marsh, Rehabilitation & Assessment

This selection process is designed to ensure fairness and objectivity for those Senior Charge Nurse posts where there are more preferences than posts.

If you are planning to retire or leave the service prior to or at the time of change, please intimate this to your Head of Nursing.

Please complete the enclosed application pro-forma and return it by 29th August 2014 to ***Jennifer Hardy, Workforce Coordinator, Ground Floor, Management Building, Southern General Hospital***.

I recognise that this will be a time of uncertainty for you. If you have any concerns, please discuss them with your directorate Head of Human Resources or your Head of Nursing.

If you have any queries regarding the documentation or process please do not hesitate to contact Jennifer Hardy on [redacted]

Yours sincerely

ANNE MACPHERSON
Workforce Director
New South Glasgow Hospitals
NHS Greater Glasgow & Clyde

Enc. Information pack and associated appendices

NHS Greater Glasgow & Clyde

Migration to New South Glasgow Hospitals

Process for filling Senior Management posts in the new structure

This pack provides a range of detailed information including:

1. An overview of the matching process (including timeframe and relevant documentation).
2. What you need to do now
3. Completing of the preference pro-forma
4. Details of the selection process if matching is not feasible
5. Return of Documentation

1. Overview of the matching process

➢ Timeline

- Letters to SCN's Issued - Week Commencing Monday 11th August 2014
- Preferences Returned - Friday 29th August 2014
- Matching Process - Week Commencing Monday 1st September 2014
- Selection Panel - Date TBC
- Confirmation in Post - Week Commencing 15th September 2014
- Effective date of new role - Monday 3rd November 2014

➢ Appendices

A List of Available posts
B Preference Pro Forma
C Competencies for Senior Charge Nurses
D On The Move Managing Workforce Change Framework

2. What you need to do now

Stage of Process	What you need to do
Timescales	1. Note dates/timescales for process well in advance 2. Notify Head of Nursing if clashes with booked annual leave
Undertake required activities and submit paperwork	1. Review list of available Senior Charge Nurse posts 2. Return of post preferences & Supporting statement

➢ Scheduling Time

Ensure you allocate time to review the list of posts, identify the posts you wish to make as your preference and complete the supporting statement within the timescales set.
Late applications will not be accepted.

3. Completing the Preference Pro-Forma

You are asked to review the list of available Senior Charge Nurse Posts within appendix A and to highlight your 1st, 2nd and 3rd preference from this list. A Pro Forma is attached for this purpose in appendix B.

➢ Preparing the Statement in Support of Post(s)

This activity offers an opportunity to provide additional related information and specific evidence in support of your Preferred Post(s).

You may wish to discuss and evidence your current and previous roles and related experience, tasks undertaken and key achievements, making links to the core competencies in appendix C of this document. Evidence demonstrating specific skills related to nurse management should be included.

You are asked to provide this information in one A4 page on the attached pro forma.

4. The Selection Process

If you are not directly matched to a post in line with your preferences, you will be required to provide additional information in the form of a significant event return to allow a selection panel to match you into a post.

We will write out to you in due course if this is necessary. The requirements for this stage are noted below for your information however you are not required to do this when submitting your proforma.

➢ Preparing the Significant Event Return

Purpose

This activity will help the selection process by identifying a key event that has taken place in the last 18 months which you can then discuss as part of the selection process. Your response to the prompts below will feed into the matching process and will act as a basis for discussion during the panel discussion. The purpose of this particular type of analysis is to enable you to present the actions you took yourself, your thinking behind those actions and your subsequent reflection upon the outcomes. Your response to the prompts below should be a minimum of **1 side of A4 paper (maximum of 2).**

Choosing an event to analyse

The event you choose should involve an activity or process that you were directly involved in and which provides an opportunity for you to display your abilities with regard to the following six competencies:

- **Leadership -** Across teams and contribute to the culture of leadership
- **Communication -** Develop and maintain communication with people about difficult matters and/or in difficult situations
- **Equality and diversity -** Promote equality and value diversity
- **Proving Clinical Leadership / effective clinical practice / clinical expertise**
- **Promoting continuous quality improvement**
- **Promoting patient safety**

You are asked to complete written input for one event/process. Please structure your analysis under the following headings:

Describing the Event/Process

Please give a brief outline of what happened in sufficient detail for the selection panel to be able to grasp the main salient points (typically about 100-150 words).

Describe the Activities You Carried Out

Please specify what you did. This could be written as a series of key action points with some explanatory detail to supplement the point (Typically you might provide 5-8 key points).

Thinking back about the event/process, what lessons would you take away for your future practice?

In this section we are seeking to understand your rationale for your actions and how you have learned from the experiences in order to influence what you would now do in such a situation (Typically you might provide 3-5 key points).

Your written submission will form the basis of a discussion and you should come prepared to talk through the 'hows' and 'whys' of the experiences you describe.

5. Return of Documentation

Please return:

- Pro Forma indicating Preferred Post(s)
- Statement in support of Preferred Post(s)

To: **Mrs Jennifer Hardy, Workforce Coordinator, Ground Floor, Management Building, Southern General Hospital**

No later than: **4:00pm Friday 29th August 2014**

ALL SUBMISSIONS WILL BE TREATED IN THE STRICTIST CONFIDENCE

Appendix A

ACUTE SERVICES DIVISION – ON THE MOVE: NEW SOUTH GLASGOW HOSPITALS

Managing Workforce Change Framework – Senior Charge Nurse Appointments Exercise

LIST OF AVAILABLE POSTS

Appendix B

ACUTE SERVICES DIVISION – ON THE MOVE: NEW SOUTH GLASGOW HOSPITALS

Managing Workforce Change Framework - Senior Charge Nurse Matching Process

Preference Pro Forma – Indicating Preferred Posts

Please review the list of available posts attached at Appendix A. Please complete the Pro Forma below.

Personal Details			
Name			
Home Address			
Contact Details – Work			
Telephone Contact Details (if on holiday or if you wish to be contacted at home)			
Current Post			
Current Site / Location			
1st Post Preference			
2nd Post Preference			
3rd Post Preference			

Appendix B Continued

Pro Forma – Statement in Support of Post Preferences

Please summarise current/previous roles, experience and relevant competencies which relate to your preferred posts

Appendix C

NHS GREATER GLASGOW & CLYDE – On the Move
Summary of Core Competencies for Senior Charge Nurse

	Core Competency	Evidence of Competence
	General	
1	**Leadership - Across teams and contribute to the culture of leadership**	■ establishes a culture of team work and cooperation ■ able to influence and persuade with own team and senior people ■ able to work comfortably in a complex work environment ■ is able to spot and encourage potential ■ creates a climate of support but holds people to account sets stretching and challenging goals in area of responsibility and drives the evaluation of KPIs
2	**Communication - Develop and maintain communication with people about difficult matters and/or in difficult situations**	■ identifies the impact of contextual factors on communication ■ adapts communication to take account of others' culture, background and preferred way of communicating ■ provides feedback to others on their communication where appropriate ■ shares and engages thinking with others maintains the highest standards of integrity when communicating with patients and the wider public
3	**Equality and diversity - Promote equality and value diversity**	■ interprets equality, diversity and rights in accordance with legislation, policies, procedures and good practice ■ actively acts as a role model in own behaviour and fosters a non-discriminatory culture ■ promotes equality and diversity in own area and ensures policies are adhered to ■ manages people and applies internal processes in a fair and equal way.
	Nursing Specific	
4	**Proving Clinical Leadership / effective clinical practice / clinical expertise**	■ creating and articulating a clear, shared vision for service delivery ■ using highly developed leadership skills to communicate, motivate and mobilise people towards shared goals

		creating a culture of challenge and support where critical feedback is received positively and mistakes are regarded as learning opportunities ■ using a positive leadership style to inspire and empower others to lead change accessing evidence from a variety of sources and critically appraising current evidence and its application where appropriate. ▪ knowledge and application of relevant national/local policies, procedures and protocols, including NHSQIS standards and SIGN guidelines ▪ maintaining a high level of accountability in own practice ▪ demonstrating expert clinical knowledge relevant to own field of practice through knowledge and understanding of the pathophysiology of conditions commonly seen in own area of practice
5	**Promoting continuous quality improvement**	▪ evaluating practice by monitoring and measurement, using Clinical Quality Indicators across six dimensions of quality and/or audit pertinent to area of practice ▪ critical thinking and analytical skills incorporating critical reflection ▪ identifying need for change, leading innovation and managing changes in practice and/or service
6	**Promoting patient safety**	▪ understanding and applying strategies for prevention of health care associated infections ▪ knowledge and application of standards for maintaining cleanliness ▪ knowledge and application of legislation, policies and protocols relating to health and safety of staff, patients and visitors ▪ knowledge and application of NMC code of professional conduct: standards for conduct, performance and ethics

Acute Nursing Workforce Paper for New South Glasgow Hospitals July, 2014

EXECUTIVE SUMMARY

The purpose of this paper is to provide an overview of the development of the New South Glasgow Hospitals and the impact upon Acute Services Nursing workforce.

The recommended staffing numbers for NSGHs identified within this paper are predicated upon applying the following principles:

1. Use of Adult Inpatient Acuity Tool (where appropriate)
2. Senior Professional Judgement
3. Small Wards Tool – for adult wards of 16 beds and under
4. Recommended skill-mix levels
5. Additional 1 day per week supervisory time for Senior Charge Nurses
6. Bed occupancy levels appropriate to the specialty – see paragraph 6 for a breakdown
7. Budget WTE figures at the levels agreed in the 2012/13 Nursing Workforce Exercise undertaken by the Director of Nursing for the Acute Services Division

The overall effect on the workforce of applying these principles is a reduction of 139.1 WTE. This is broken down by each of the service changes in the table below.

Service Change	Workforce Change
Glasgow Bed Reduction	-173.8
New South Glasgow Hospitals	-18.2
Small Wards Tool Application	14.6
Paediatrics	60.6
GRI - Additional 10k attendances at ED, +10 Acute Assessment Beds (12hrs/day) and 2 additional Medical HDU beds	22.6
Consolidation of Emergency Depts and Development of New Minor Injury Units at NSGH and Gartnavel	-26.7
Reduction in Senior Charge Nurses	-16.1
Clinical-Coordinators (out-of-hours)	-2.0
Net-effect	**-139.1**

The reduction of 139.1 WTE is mainly within the unregistered workforce, accounting for 124.2 WTE, as shown below:

Service Change	Senior Charge Nurses	Registered Nursing	Unregistered Nursing	Total
Glasgow Bed Reduction	-5	-101.9	-66.9	-173.8
New South Glasgow Hospitals	-12.55	71.5	-77.1	-18.2
Small Wards Tool Application	2	6.9	5.7	14.6
Paediatrics (Includes 1 SCN)	-1	47.8	13.8	60.6
GRI - Additional 10k attendances at ED, +10 Acute Assessment Beds (12hrs/day) and 2 additional Medical HDU beds	0	17.0	5.6	22.6
Consolidation of Emergency Depts and Development of New Minor Injury Units at NSGH and Gartnavel	0	-21.5	-5.2	-26.7
Reduction in Senior Charge Nurses	0	-16.1	0.0	-16.1
Clinical-Coordinators (out-of-hours)	0	-2.0	0.0	-2.0
Net-effect	**-16.55**	**1.7**	**-124.2**	**-139.1**

1 Introduction

1.1 Since the publication of the Full Business Case in late 2010 for the New South Glasgow Hospitals (Adult's and Children's) there have been some national developments which impact on the nursing and midwifery workforce including:

- Publication of revised workforce planning guidance from the Scottish Government (December, 2011)[1]
- Updated release of the Adult Acuity Inpatient Workload Measurement Tool (October, 2011)
- Release of Nationally-validated Small Wards Tool (Late 2013)
- Published guidance from Royal College of Nursing (RCN) including recommended skill-mix levels (April, 2011) [2]
- Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry (Francis Report), Feb 2013
- Review into the quality of care and treatment provided by 14 hospital trusts in England: overview report by Professor Sir Bruce Keogh KBE, July 2013
- Rapid Review of the Safety and Quality of Care for Acute Adult Patients in NHS Lanarkshire, Dec 2013

1.2 CEL 32 (2011) revised and superseded the previous guidance contained with HDL (2005) 52. As a result of the CEL, NHS Boards are asked to ensure that:

"For the nursing and midwifery workforce, professional validated workload measurement and workforce configuration tools should be used. NHS Boards should reference the national nursing and midwifery workload and workforce planning tools (as appropriate) used in deriving the nursing numbers for each clinical area (as appropriate). These tools should be used as part of the triangulated approach incorporating professional judgement with quality measures."

1.3 The workforce planning activity for the New South Glasgow Hospitals (NSGHs) has been undertaken in accordance with the CEL 32 (2011).

1.4 This revision to the Adult Acuity Inpatient Tool in 2011 made some changes to the recommended Nurse- to-Bed Ratios (NtBRs). The Adult Acuity Inpatient Tool is a nationally-validated, evidenced-based workload measurement tool. NHSGGC are committed to applying nationally-validated workload tools where they exist. This is in-line with best-practice recommendations set-out with the Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry (the Francis Report), Feb, 2013[3] which states:

"***Any standards should include evidence-based tools for establishing the staffing needs of each service, in terms of staff numbers and skill mix, although it is recognised that guidance would need to be flexible and give due regard to the need of different specialities and limitations on resources."***

1.5 The Acute Services Division reviews nurse staffing levels using a triangulation approach of:

- Senior Professional Judgement
- Workload Measurement (e.g. Adult Acuity Inpatient Tool)
- Quality Measures (for example, Clinical Quality Indicators, Healthcare Environment Inspectorate outcomes and/or Older People in Acute Care Improvement Programme)

1.6 This triangulation approach has been utilised to plan within the Acute Services Division, including the New South Glasgow Hospitals, Nursing workforce.

[1] Scottish Government CEL 32(2011), Revised Workforce Planning Guidance for NHS Boards

[2] Guidance on safe nurse staffing levels in the UK, RCN, 2011

[3] Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry (the Francis Report), Feb, 2013

1.7 The recommended skill-mix for acute wards of 65/35 (registered/unregistered) has been incorporated into the workforce planning assumptions for the NSGH. The planned skill-mix levels are set out in paragraph 7.1. This best-practice is in-line with a recommendation set-out within the Rapid Review of the Safety and Quality of Care for Acute Adult Patients in NHS Lanarkshire, Dec 2013 which states:

"The safe, person-centred delivery of care and timely progression of patients from admission to discharge is being adversely impacted by both the numbers of nursing staff on duty and the balance between registered and unregistered staff. There are particular challenges out of hours and at weekends, though the review team also saw evidence of times during week days where there were not enough nurses to respond to patients' needs in a timely way."

1.8 The skill-mix levels above are supported by a paper published by the RCN which set outs guidance for undertaking workforce planning activities within Nursing. It outlines the following recommendation:

"that skill-mix on acute wards should not be more dilute than the benchmark average of 65 percent registered nurses"

2 Full Business Case (FBC) Assumptions

2.1 The FBC for the New South Glasgow Hospitals and Laboratory was completed in late 2010. At this point there was no nationally mandated workforce planning tool for adult nursing available. However, a 2007 version of the Adult Acuity Inpatient Tool was available and this was considered alongside professional judgement when undertaking the workforce planning for the NSGH FBC. The key assumptions made were:

- Average nurse to bed ratio of 1.19. This has increased to an average of 1.38.
- Bed occupancy of 85%
- A reduction of 278 beds during 2011/12 with a further 126 beds being phased out over the following four years. The overall reduction of 404 beds includes an increase of 54 beds in General Medicine.
- A reduction in nursing posts of 480.8 WTE associated with the reduction in beds of 404.
- Changes in skill-mix within Nursing. Approximate movement of 8% band 5 to bands 3 or 4. Due to recommendations within published national reports, this shift in skill-mix will not materialise.
- 6.25 WTE of efficiencies from reduced nurse management overheads due to the reduction in beds.

3 Nurse to Bed Ratios (NtBR)

3.1 The Adult Inpatient Acuity Tool determines nursing staffing levels based on a nurse to bed ratio and average bed occupancy (ABO) level, including a 22.5% predicted absence allowance. GGC has defined this as follows; 17% annual leave, 3% absence, and 2.5% study leave. The nurse to bed ratio has been developed from specialty specific observational studies conducted in NHS England. These studies monitor patient dependency and the volume of nursing resource allocated to a range of tasks including patient hygiene, vital signs, reporting, cleaning etc. Data from these studies is used to calculate the specialty specific nurse to bed ratio.

3.2 Revised ratios were released in 2011 which are shown below:

TABLE 1: Comparison of Adult Inpatient Tool ratios 2007 and 2011

Specialty	Adult Inpatient Tool Ratio 2007	Adult Inpatient Tool Ratio 2011	Variance 2007 to 2011
Acute Receiving Units	1.52	1.53	+0.01
Cardiology	1.12	1.24	+0.12
Elderly – Acute Care	1.16	1.06	-0.10
Elderly – Continuing Care	1.04	1.08	+0.04
Gynaecology	1.17	1.13	-0.04
Infectious disease	1.42	1.51	+0.09
Medical	1.17	1.12	-0.05
Neurology	1.53	1.41	-0.12
Oncology	1.37	1.38	+0.01

Orthopaedics – Elective	1.17	1.10	-0.07
Orthopaedics – Trauma	**NA**	1.32	
Rehabilitation	1.33	1.34	+0.01
Stroke	1.10	1.15	+0.05
Surgery	1.35	1.26	-0.09
Vascular Surgery	**NA**	1.24	

4 Senior Professional Judgement

The Senior Professional Judgement model has been developed in-house by Heads of Nursing/Midwifery and takes account of the local context. It uses a speciality staff to bed ratio developed with consideration to the Adult Acuity Inpatient Tool, current speciality ratios and senior professional judgement (Table 2).

TABLE 2: Comparison of Senior Professional Judgement and Adult Acuity Inpatient Tool 2011 Ratios

Specialty	Adult Inpatient Tool Ratio 2011	NHSGGC Senior Professional Judgement Ratio	Variance
Acute Receiving Units	1.53	1.53	0.00
Cardiology	1.24	1.24	0.00
Elderly – Acute Care	1.06	**1.16**	**+0.10**
Elderly – Continuing Care	1.08	1.08	0.00
Gynaecology	1.13	1.13	0.00
Infectious disease	1.51	1.51	0.00
Medical	1.12	**1.17**	**+0.05**
Neurology	1.41	1.41	0.00
Oncology	1.38	1.38	0.00
Orthopaedics – Elective	1.10	1.10	0.00
Orthopaedics – Trauma	1.32	1.32	0.00
Rehabilitation	1.34	1.34	0.00
Stroke	1.15	1.15	0.00
Surgery	1.26	1.26	0.00
Vascular Surgery	1.24	1.24	0.00

4.1 The Senior Professional Judgement ratios above have been used in conjunction with the ratios below for critical care areas when undertaking workforce planning.

High Dependency (Adult)	3.20
Intensive Care (Adult)	6.24
Coronary Care	2.82

4.2 The Senior Professional Judgement has been approved and signed-off by the Heads of Nursing, Acute Director of Nursing and NHSGGC Board Nurse Director in agreement with the Chief Operating Officer and Acute Director of Finance.

5 Small Wards Tool

5.1 The Small Wards Tool has now been approved nationally for use within Scottish NHS Boards. NHS Greater Glasgow and Clyde have committed to applying nationally-validated tools for the Nursing workforce where they exist. Therefore, the Small Wards Tool has been applied to all existing and proposed wards with 16 beds or fewer. The Small Wards Tool uses the principle of triangulation to determine a recommended staffing level based upon the following 3 measurements:

1. Average Bed Occupancy
2. Patient Dependency
3. Minimum safe staffing levels (number of nursing staff per shift)

5.2 Small wards, those with 16 or less beds, are inherently inefficient as they require a minimum level of staffing to cover the hours the ward is open, which, in some cases, exceeds the recommended NtBR for the specialty.

6 Bed Occupancy

6.1 It is important to note that the workforce implications contained within this paper are predicated on achieving an 85% Average Bed Occupancy (ABO) level within Surgery and Anaesthetics, Regional Services and Gynaecology within Women and Children's Directorate. Emergency Care and Medical Services and Rehabilitation and Assessment wards, High Dependency Units and Coronary Care are planned at 95%. Adult Acute Receiving and Intensive Care wards are planned at 100%.

6.2 Paediatrics and Neonatology has remained at the Average Bed Occupancy identified in the 2013/14 Nursing and Midwifery Workload Planning Exercise.

7 Skill-Mix

7.1 The Acute Division recognises the importance of having the right people with the right skills in the place at the right time. It is intended to ensure all wards have a consistent and minimum level of skill-mix to deliver safe, effective and person-centred care. The recommended level of skill-mix by specialty is outlined below:

TABLE 3: Recommended Skill-Mix Levels

Ward Category	Recommended Skill Mix
Paediatric Intensive Care (PICU)	90/10
Adult Intensive Care	90/10
Neonatal Intensive Care (NICU)	85/15
High Dependency/Coronary Care	80/20
Acute Receiving Units	75/25
Specialised Wards (e.g. Adult Oncology, Paediatrics)	70/30
Wards	65/35
Continuing Care	50/50

7.2 There are a number of areas within the existing bed complement which have yet to meet these recommended skill-mix levels.

7.3 Funding was agreed by the NHSGGC Board in September, 2013 to bring the Acute Services Division closer to the recommended skill-mix levels. This additional funding has been included in the current WTE figures within the paper.

7.4 This paper ensures all NSGHs wards achieve the recommended skill-mix ratios in Table 3. Further, it is planned that all inpatient wards will have senior nursing presence across 7 days – either by a Senior Charge Nurse or Band 6 Nurse. This is to support ambition 6 set-out within the review into the quality of care and treatment provided by 14 hospital trusts in England: overview report by Professor Sir Bruce Keogh KBE, July 2013[4] which states:

"Nurse staffing levels and skill mix will appropriately reflect the caseload and the severity of illness of the patients they are caring for and be transparently reported by trust boards. This was based on the review teams' findings of inadequate numbers of nursing staff in a number of ward areas, particularly out of hours - at night and at the weekend. This was compounded by an over-reliance on unregistered support staff and temporary staff."

8 Senior Charge Nurses/Midwives (SCN/Ms)

[4] Review into the quality of care and treatment provided by 14 hospital trusts in England, Professor Sir Bruce Keogh KBE, July 2013

8.1 The Adult Acuity Inpatient Tool and professional judgement currently includes an allowance for 1 day per week of supervisory time for SCN/Ms. Across the Division, work has been carried out to analyse the potential impact of increasing the number of supervisory days for SCN/Ms. Therefore SCN/Ms will increase from 1 day to 2 days supervisory time per week.

8.2 To maintain the recommended level of skill-mix the additional time provided to SCN/Ms will be backfilled with registered nursing staff.

8.3 Increasing the proportion of supervisory time available for SCN/Ms is critical to fulfilling the new SCN/M role framework and ensuring all requirements of the Healthcare Quality Strategy[5] are met.

8.4 All wards within the Glasgow inpatient sites have the additional 1 day supervisory time included within their required nursing WTE.

9 Ward Configuration

9.1 Within the Glasgow Royal Infirmary, Gartnavel General, Southern General, Victoria Infirmary, Western Infirmary and Mansionhouse Unit the overall number of adult inpatient wards is 128. Of these, 35 have 16 or less beds. Within the NSGH, the standard ward size will be 28 beds – all single rooms.

9.2 The number of small wards will reduce to 24 following the consolidation of sites, removal of beds and additional new small wards at Glasgow Royal Infirmary. The small wards tool has been applied to all of these.

9.3 The total number of wards within the NSGH Adult hospital will be approximately 45.

10 Summary of Bed Reductions and associated workforce change (WTE) – Adult Services

10.1 The WTE associated with the bed reduction is 173.03 WTE – of which 38% is within the unregistered workforce which is illustrated in more detail in Table 29. This is split across the following Directorates:

TABLE 4: Summary of WTE Workforce Change associated with bed reductions

Directorate	WTE Reduction
Emergency Care & Medical Srvcs.	-32.31
Rehabilitation & Assessment	-48.36
Regional Services	0.00
Surgery & Anaesthetics	-67.35
Women & Children's (Gyn Only)	-25.01
Total	**-173.03**

10.3 The number of Senior Charge Nurses also reduces in-line with this by a total of 5 WTE.

11 New South Glasgow Hospitals

11.1 The total number of beds identified within the NSG Adult Hospital is 1,121. This is broken down by Directorate below:

TABLE 5: NSG Adult Hospital Bed Complement by Directorate

Directorate	NSG Adult Beds
Emergency Care & Medical Srvcs.	547
Rehabilitation & Assessment	70
Regional Services	99
Surgery & Anaesthetics	405
Total	**1121**

[5] The Healthcare Quality Strategy for NHS Scotland, Scottish Government, May 2010

11.2 The WTE required to staff these beds has been calculated in accordance with the recommended Nurse to Bed Ratios, Skill-mix levels, assumed bed occupancy and additional supervisory time for Senior Charge Nurses.

TABLE 6: NSG Adult Hospital WTE Required

Directorate	Beds	Total WTE Reqd.(Incs SCNs)	Senior Charge Nurses
Emergency Care & Medical Srvcs.	547	761.9	22.0
Rehabilitation & Assessment	70	85.8	3.0
Regional Services	99	142.5	4.0
Surgery & Anaesthetics	405	607.0	16.0
Total	**1121**	**1597.1**	**45.0**

11.3 The current available Budget WTE associated with the beds moving to New South Glasgow Adult Hospital is 1,615.34 WTE. This includes 57.5 WTE of Band 7 Senior Charge Nurses.

11.4 The application of recommended skill-mix levels to the NSGH does make an impact upon the skill-mix which is shown in the table below:

TABLE 7: NSG Adult Hospital WTE Required versus Current WTE by Nursing Group

Nursing Group	Current WTE	New Required WTE	Variance
Registered Nursing	1075.85	1134.8	58.9
Unregistered Nursing	539.49	462.3	-77.1
Total	**1615.34**	**1597.1**	**-18.2**

11.5 The net-effect on the workforce associated with NSG Adult Hospital would be a reduction of 18.2 WTE, which includes 12.55 WTE reduction of SCNs.

11.6 The workforce change of 18.2 WTE includes a skill-mix shift towards a predominantly registered workforce. There is a requirement to increase the number of registered nursing staff by 58.9 WTE, and reduce the unregistered nursing staff by 77.1 WTE. This skill-mix change ensures all wards within the New South Glasgow Hospital meet the minimum levels set out in paragraph 7.

11.7 Within the NSGH Adult Hospital there will be a 26-bedded **Acute Stroke Unit**. Of this, 12 beds will be classified as "Hyper-Acute". The first 72 hours of a stroke patient's conditions requires an intensive level of input related to thrombolysis and increased monitoring. This unit is similar to high-dependency and therefore has increased NtBR and skill-mix as a result. This results in an increased requirement of 19.18 WTE – of which 13.81 is registered nursing.

11.8 Within **Surgery and Anaesthetics** there are three categories of patients who would not be admitted via the Acute Receiving Unit on the Ground Floor. These are:

Diagnosed Urology, Vascular and ENT.

Accordingly, within the inpatient wards for these areas 25% of the beds have been increased to an Acute-Receiving level of nursing i.e. 1.53 NtBR, 100% occupancy and 75/25 skill-mix. This accounts for the wards accepting direct admission. This has been factored into the NSGH calculations above.

12 Small Wards

12.1 NHS Greater Glasgow and Clyde is committed to ensuring safe staffing levels are established for all wards. Within Glasgow, there are currently 35 wards which have 16 or less beds and therefore fall into the category of 'Small Wards'. In order to ensure safe staffing levels are achieved, a minimum of 2 registered nurses per shift including an uplift of 22.5% to cover Predicted Absence Allowance (PAA), NHSGGC applies both the Small Wards Tool and Senior Professional Judgement to these areas. This drives an increase in the NtBRs for these wards.

12.2 It is planned to refurbish a number of wards within Glasgow Royal Infirmary to accommodate the increase in bed complement shown above. Unfortunately, due to physical space constraints and Infection Control guidance relating to bed-spacing, the proposed wards would be classed as small wards – that is less than or equal to 16 beds.

12.3 In total, 3 new medical wards are proposed:

- Ward 10 – 15 Beds
- Ward 29 – 12 Beds
- Ward 32 – 12 Beds

12.4 The bed complement associated with these 3 wards is included within the Glasgow Royal Infirmary figure of 930.

12.5 By applying the Senior Professional Judgement to these proposed wards the following additional requirement for Nursing is identified. This includes an additional 1 day's supervisory time for SCNs.

TABLE 8: Proposed small wards at Glasgow Royal Infirmary

Proposed Wards	WTE Reqd (Applying	Senior Professional Judgement	Variance
Ward 10 – 15 Beds	16.7	19.9	3.2
Ward 29 – 12 Beds	13.3	18.7	5.3
Ward 32 – 12 Beds	13.3	18.7	5.3
Total – 39 Beds	**43.3**	**57.2**	**13.9**

12.6 In addition to the planned refurbishments there will be 7 small wards from the existing estate within GRI, GGH and SGH which, either as consequence of the bed reductions or are pre-existing wards will have 16 beds or less.

TABLE 9: Impact of applying Senior Professional Judgement to existing Small Wards with Glasgow

Site	Ward Name	Beds	Current WTE Budget	Senior Professional Judgement	Variance
SGH	Sgh-Ward 68 Neurology	13	13.6	13.6	0.0
GGH	Ggh-Ophthal-Wd 1cip	9	13.2	13.2	0.0
GGH	Ggh-Orthopaed-Wd 2a/B	8	7.8	13.2	5.4
GGH	Ggh- Urology - Wd6a/B (GGH BEDS)	7	7.1	13.2	6.2
GRI	Gri-Acute Med-Gen Med 46	16	21.3	21.3	0.0
GRI	Gri-Resp-Wd 6	14	22.6	22.6	0.0
GRI	Gri-Ward 45	13	27.6	21.8	-5.8
GRI	Gri-Ward 48	12	26.9	21.8	-5.1
TOTAL		**92**	**140.1**	**140.8**	**0.7**

12.7 Therefore, the additional Nursing requirement to provide appropriate staffing for the existing and new proposed small wards is 14.6 WTE.

12.8 The recommended skill-mix for these areas is 65/35.

12.9 The split by registered/unregistered workforce is shown in Table 16 below.

TABLE 10: Summary of skill-mix required for existing small wards

Site	Ward Name	Beds	Variance - Registered Nursing WTE	Variance - Unregistered Nursing WTE	Variance
SGH	Sgh-Ward 68 Neurology	13	-1.8	1.8	0.0
GGH	Ggh-Ophthal-Wd 1cip	9	-0.6	0.6	0.0
GGH	Ggh-Orthopaed-Wd 2a/B	8	4.4	1.0	5.4
GGH	Ggh- Urology - Wd6a/B (GGH BEDS)	7	3.7	2.4	6.2
GRI	Gri-Acute Med-Gen Med 46	16	1.5	-1.5	0.0
GRI	Gri-Resp-Wd 6	14	2.1	-2.1	0.0
GRI	Gri-Ward 45	13	-4.4	-1.4	-5.8
GRI	Gri-Ward 48	12	-5.0	0.0	-5.1
TOTAL		**92**	**-0.1**	**0.8**	**0.7**

13 Paediatrics and Neonatology

13.1 The current Paediatrics and Neonatology beds and associated workforce at the Royal Hospital for Sick Children (RHSC) will transfer to the new purpose-built New South Glasgow Children's Hospital. A number of service redesign initiatives and bed model changes have already been implemented within the current RHSC model as part of the preparatory work for moving to the NSGH. The aim of which was to establish a similar operating model to the New Children's Hospital within RHSC prior to the move.

13.2 The total number of beds within New Children's Hospital is 256.

13.3 The table below illustrates the changes by specialty:

TABLE 11: Current versus Future Inpatient Bed Numbers for Paediatrics and Neonatology

Specialty	Current - RHSC	Future - New Children's Hospital
Schiehallion	22	30
Cardiology	14	14
Neonatal Intensive Care	16	12
Paediatric Intensive Care	22	22
Acute Receiving	40	40
General Inpatient Beds	91	72
Total	**205**	**190**

13.4 There are a further 66 beds within the New Children's Hospital which are broken down below:

TABLE 12: Other Beds within New Children's Hospital

Clinical Area	Other Beds
23hr Ward/Day Surgery	30
Short-Stay Assessment	20
Medical Day Unit	10
Psychiatry	6
Total Other Beds	**66**

13.5 The recommended skill-mix levels for Paediatrics and Neonatology are set-out below:

Table 13: Summary of recommended skill-mix levels for Paediatrics and Neonatology

Ward Category	Recommended Skill-Mix
Paediatric Intensive Care	90/10
Neonatal Intensive Care	85/15
Oncology (Schiehallion)	80/20
Acute Receiving	75/25
Inpatient Wards	70/30

13.6 In total there is 950.9 WTE Nursing staff within Paediatrics at the Royal Hospital for Sick Children. This figure includes non-inpatient areas such as Emergency Department, Theatres, Outpatients and Advanced Nurse Practitioners.

13.7 The future bed model for Paediatric Services reflects a net reduction in beds of 4 – which occur within the Neonatal Intensive Care Unit (NICU).

13.8 The workforce reduction associated with these beds is offset against an increase of short-stay assessment beds aligned with the Emergency Department and an extension of the age-range of patients to include those aged between 13 and 16. The short-stay assessment beds are increasing from 10, currently, to 20 within the New Children's Hospital. These are not inpatient beds and therefore are not reflected within the summary of inpatient bed changes in Table 23 above. The increased activity within the Emergency Department requires an additional 20 WTE. In addition to this an extra 2 WTE of Paediatric Advanced Nurse Practitioners is required.

13.9 The extended age-range within paediatrics has an impact on Theatres and Outpatients with Theatres requiring an additional 23 WTE and Outpatients 2.5 WTE.

13.10 There will be a consolidation of wards when moving from RHSC to New Children's Hospital which will deliver a saving of 1 WTE Senior Charge Nurse.

13.11 An additional 5 Band 5 nurses have been invested into the existing Schiehallion ward – these will carry-over into the New Children's Hospital.

13.12 The net-effect on Paediatrics therefore is an increase in the workforce of 60.6 WTE.

13.13 The overall workforce change split by registered/unregistered nursing groups is shown below:

TABLE 14 – Skill-mix change within Paediatrics

Area	Registered Nursing Variance	Unregistered Nursing Variance	Total
Paediatrics	46.8	13.8	60.6
Total	**46.75**	**13.82**	**60.57**

14 Senior Charge Nurses (SCNs)

14.1 The total number of Senior Charge Nurses in-post currently is 141.84 WTE across Glasgow inpatient wards including Paediatrics.

14.2 The NSGH delivers a saving of 13.55 WTE SCNs – by reducing the number of small wards – including 1 WTE within Paediatrics.

14.3 A further reduction of 5 SCNs, associated with the reduction in beds is offset by an additional requirement of 2 WTE SCN at Glasgow Royal Infirmary in relation to the proposed small wards.

14.4 The net reduction in SCNs would therefore be 16.55 WTE, which is linked with the NSGHs and retained estate inpatient wards and updated bed model.

15 Other Nursing Groups

15.1 In 2010, at the time of producing the Full Business Case for NSGHs the Acute Division employed 39 WTE of Lead Nurses within the sites affected by the NSGHs. Since then, this has reduced to 30.8 - a reduction of 8.2 WTE. This is ahead of the planned reduction of 6.25 expected within the Full Business Case.

15.2 There will be a reduction of Clinical Coordinators (out-of-hours) across Glasgow of 3 WTE associated with the closure of Stobhill Hospital, Victoria Infirmary and the Western Infirmary. 1 WTE of this has already been delivered following the successful closure of Stobhill.

16 Conclusion and Summary of Workforce Change

16.1 Applying the above principles, results in an overall reduction in the Nursing Workforce within Acute Services of 139.1WTE. This is broken down in the tables below:

TABLE 15: Net-effect of Workforce Change

Service Change	Workforce Change
Glasgow Bed Reduction	-173.8
New South Glasgow Hospitals	-18.2
Small Wards Tool Application	14.6
Paediatrics	60.6
GRI - Additional 10k attendances at ED, +10 Acute Assessment Beds (12hrs/day) and 2 additional Medical HDU beds	22.6
Consolidation of Emergency Depts and Development of New Minor Injury Units at	-26.7
Reduction in Senior Charge Nurses	-16.1
Clinical-Coordinators (out-of-hours)	-2.0
Net-effect	**-139.1**

16.5 The application of recommended skill-mix ratios to all wards drives a shift towards a predominantly registered nursing workforce. The overall reduction of 139.1 WTE includes a reduction of 14.85 WTE registered nursing and a reduction of 124.2 WTE unregistered nursing. This is broken down in the table below.

TABLE 16: Net-effect of Workforce Change by Nursing Group

Service Change	Senior Charge Nurses	Registered Nursing	Unregistered Nursing	Total
Glasgow Bed Reduction	-5	-101.9	-66.9	-173.8
New South Glasgow Hospitals	-12.55	71.5	-77.1	-18.2
Small Wards Tool Application	2	6.9	5.7	14.6
Paediatrics (Includes 1 SCN)	-1	47.8	13.8	60.6
GRI - Additional 10k attendances at ED, +10 Acute Assessment Beds (12hrs/day) and 2 additional Medical HDU beds	0	17.0	5.6	22.6
Consolidation of Emergency Depts and Development of New Minor Injury Units at	0	-21.5	-5.2	-26.7
Reduction in Senior Charge Nurses	0	-16.1	0.0	-16.1
Clinical-Coordinators (out-of-hours)	0	-2.0	0.0	-2.0
Net-effect	**-16.55**	**1.7**	**-124.2**	**-139.1**

new South Glasgow Hospitals

Workforce Plan

Version 2.0 – DRAFT – August 2014

Introduction

The new South Glasgow adult and children's hospitals are due to be completed by early 2015. The adult hospital will be one of the largest acute hospitals in the UK and home to major specialist services such as renal medicine, transplantation and vascular surgery, with state-of-the-art Critical Care, Theatre and Diagnostic Services.

The new adult hospital will have 1,121 beds, with each general ward consisting of 28 single bedrooms with en-suite facilities; this will assist in addressing hospital acquired infection (HAI), mixed sex, patient privacy and dignity issues. Each room will also have a large window onto the ward corridor to allow good line of sight between the staff and patients. To help staff deliver care, the new ward layout has special 'touch-down' stations arranged at strategic points along ward corridors.

The new adult hospital will be integrated with the children's hospital (albeit with separate functions and entrances). The new Children's hospital will consist of 256 beds/cots, with 12 of those located within the Neonatal Intensive Care Unit within the existing Maternity Building.

A physical link for patients and staff is planned from the new hospitals into the Maternity and Neurosciences Institute building. The new hospitals will also be linked to the new laboratory build via an underground tunnel and pneumatic tube.

Additionally, the site will also host a new Teaching and Learning Centre, a Clinical Research Area and a dedicated Administration Building which will open in Summer, 2015.

The new Teaching and Learning Centre will be jointly-owned with the University of Glasgow and provide 3 floors of state-of-the-art medical learning and teaching facilities, a 500-seat lecture theatre and a knowledge exchange area. The 4th floor of the centre will be the Scottish Stratified Medicine Innovation Centre providing research facilities for small and medium enterprises[1].

The dedicated office block will provide accommodation for clinical and non-clinical staff required to be based on-site. The building will be a modern 21st century office with around 1200 workspaces. It will enable us to co-locate clinical and specialty teams with access to quiet space to facilitate confidential conversations. Further, the building will be eco-efficient which will contribute to our reduction in carbon emissions.

This workforce plan aims to set-out the current workforce planning assumptions based on the original business case with service redesign from Directorates. The format is floor-by-floor, job family-by-job family for both hospitals also taking account on any impact on other areas of the campus and other sites across NHSGG&C.

The plan has been developed from Directorate redesign groups.

Anne MacPherson
Workforce Director

[1] University of Glasgow :
http://www.gla.ac.uk/services/estates/projectdirectory/currentprojects/learningteachingbuilding-southglasgowhospital

Contents

Section 1: Overview

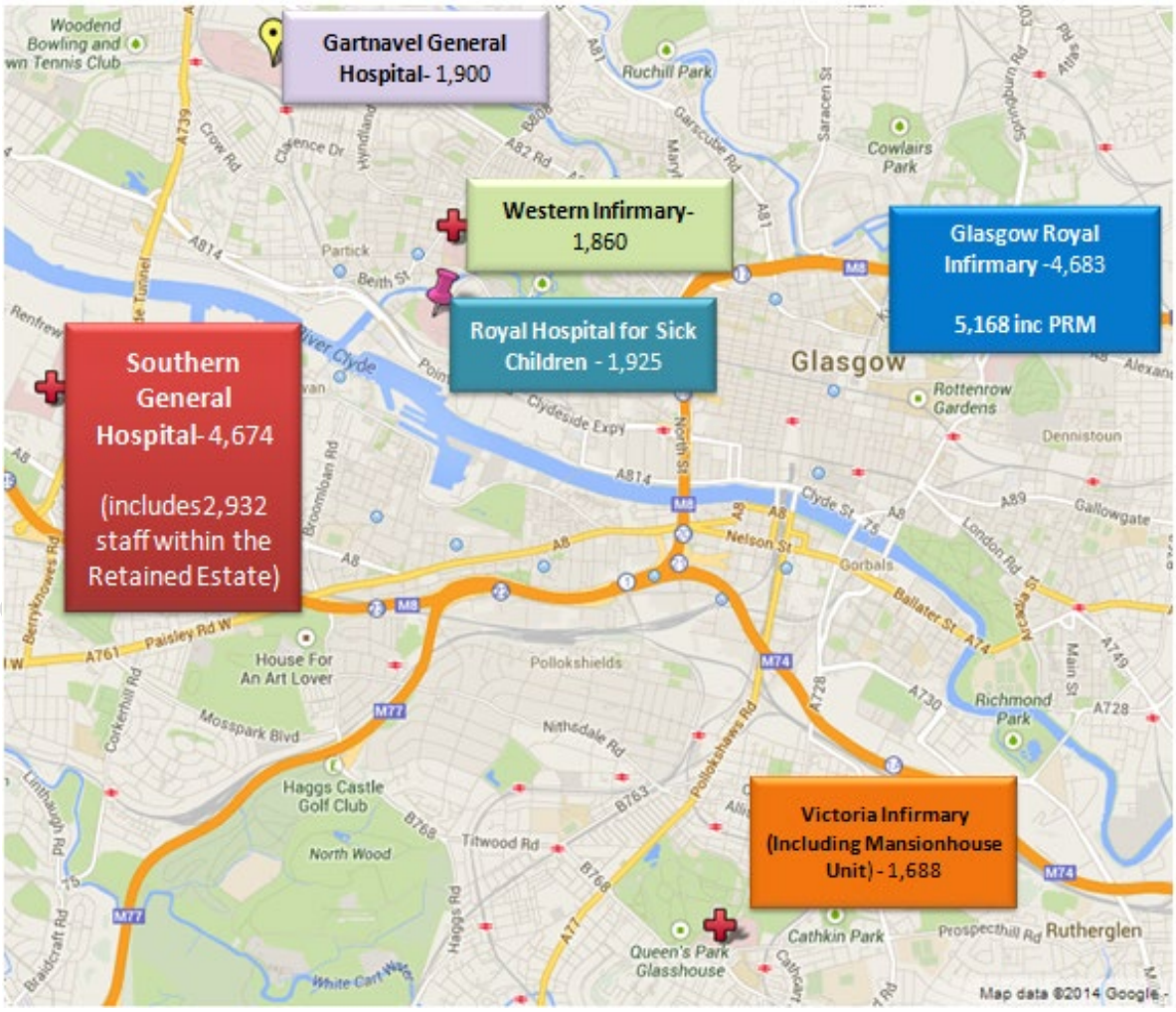
1.0 On the Move

1.0.1 On the Move is the Acute Services Division's programme to support the redesign of services leading to the summer of 2015 when the new Adult and Children's hospitals will open in South Glasgow. A new Laboratory building was completed in the site of the Southern General Campus in March 2012.

1.0.2 There are five Acute sites directly affected by the development of the new South Glasgow Hospitals (nSGHs). They are the existing Southern General, Royal Hospital for Sick Children, Western Infirmary, Victoria Infirmary and Mansionhouse Unit.

1.0.3 There are currently 12,047 staff at these sites. Figure 1 below provides a graphical illustration of current headcount by site. Gartnavel General Hospital and Glasgow Royal Infirmary are also included due to changes which will impact on some services within these sites.

FIGURE 1: Overview of Glasgow Acute sites at April, 2014



1.0.4 The new Adult and Children Hospitals present a significant logistical challenge to the Division in bringing over 10,000 staff together onto a single site. This includes 6,083 staff required to change their work location.

1.0.5 Gartnavel General Hospital and Glasgow Royal Infirmary will both be affected, to some extent, with the consolidation of sites and services and the implementation of the bed model.

1.1 The new South Glasgow Hospitals Workforce Plan

1.1.1 This plan is split into four sections:

Section 1: Provides an overview of the service change
Section 2: Provides information for Adult Services affected by nSGHs
Section 3: Provides information for Paediatric Services affected by nSGHs
Section 4: Provides information on the migration support to effect the change

1.1.2 The plan a baseline as at August 2014 with the model continually refined with any service developments. The plan has been developed using:

> Input from Directorate/Job Family-based Workforce Plans

> Workforce Data from Payroll, supplemented by Workforce Planning data such as Postcode Analysis, Retiral Projections etc.

> Standard Operating Policies developed by local service workstreams as published on the nSGH Reference Site[2]

1.2 Workforce Change Governance

1.2.1 The On the Move Programme Board has a number of work streams, led by Acute Directors, which have been established to focus on specific areas. They are:

1. Capacity and Emergency Patient Flows
2. Inpatient Elective Care
3. Outpatient Day Case/Ambulatory Care
4. Clinical Support Services and Buildings
5. Primary Care/Community Interface
6. Paediatric

1.2.2 These groups are supported by 2 advisory groups: Information and Technology and Workforce Advisory Group.

1.2.3 The Workforce Advisory Group provides advice and support to the main work groups. This includes Workforce Planning particularly around the Medical and Nursing workforce, Organisational Development, Training and Development and HR Practice and Guidance. The membership includes partnership representatives from the Acute Partnership Forum.

1.2.4 There are two subgroups to the Workforce Advisory Group:

1. Human Resources (including Workforce Planning)
2. Employability

1.2.5 The Human Resources subgroup collated workforce planning information from work streams and Directorates. Equally, the Division's Lead Director of Medical Services and Nurse Director have professionally led work activities based on clinical activity

[2] http://teams.staffnet.ggc.scot.nhs.uk/teams/Acute/NewSGHosp/nSGHWorkRef/default.aspx

1.2.6 There are a number of Workforce Plans which feed into this overarching plan at a Directorate and Job Family level. As these plans have been signed-off the resulting workforce changes are illustrated within this plan.

1.3 Workforce Assumptions and Nursing Workload Tools

1.3.1 There are a number of workforce assumptions and tools being applied to the new South Glasgow Hospitals including:

- An average bed occupancy of 85% (100% within Critical Care and Acute Receiving)
- Recommended skill-mix levels and staffing ratios for Nursing
- Use of Adult Inpatient Nursing Workforce Tool for all Adult Inpatient Beds
- Use of Nursing Small Wards Tool for wards of 16 beds or fewer
- Use of Allied Health Professions Workload Tool where appropriate
- Predicated on achieving Bed Model 2B

1.3.2 Where nationally-validated workload tools do not yet exist these areas have undertaken benchmarking exercises and other capacity and workforce planning exercises relevant to their specialty/profession – for example domestics are using a floor space to staffing ratio.

1.3.3 The recommended Nurse to Bed Ratios and Skill-mix levels are included within appendix 1.

Medical Staffing Workforce Assumptions

1.3.5 Directorate teams have been working with the Medical Staffing section to baseline all medical workforce data recognising that the assumptions made for the development of the Full Business Case changed. Job Planning Guidance has been refreshed and a timeline to ensure job planning is undertaken in advance of the move has been agreed and issued through our Associate Medical Directors.

1.3.6 There are no nationally validated or recognised medical workforce workload tools available to use and therefore a range of activity and bed information has been used to shape any changes in the Consultant cohort.

Career-Grade Medical Staff

- Job planning information for all career grade doctors has been based on 2013 information with overall available Programmed Activities established.
- Each Directorate is planning for individual Job plan reviews based upon projected activity and capacity plans, to establish overall Career Grade numbers and programmed activities required.

Training Grade Medical Staff

- The Clinical Executive Group have sponsored the development of a Hospital at Night / Weekend model, as well as establishing individual directorate out of hours cover requirements.
- The number and grades of trainees within the affected sites for 2014/15 is based on NES Specialty Training Boards' allocations provided in the summer of 2014.

- The medical staffing team are working with directorates to develop rota calculations; establishing the minimum out of hours cover per directorate by grade and tier to establish the minimum overall numbers required on individual rotas.

1.3.7 The Lead Director for Medical Services working with Directorate teams has finalised a medical staff baseline for the hospitals.

1.4 Overall Workforce

1.4.1 As at the end of April '14, there were 12,047 staff within the directly affected sites; Western Infirmary, Victoria Infirmary, Mansion House Unit, Southern General, Royal Hospital for Sick Children and Gartnavel General. In addition to this, there are 4,683 staff at Glasgow Royal Infirmary. The following table outlines the split of these for each of the job families and Directorates:

Division name	Administrative Services	Allied Health Profession	Snr. Managers	Healthcare Sciences	Medical and Dental	Medical and Dental Support	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Diagnostic Services	203	303	6	801	164		46	9		16	1,548
Emergency Care & Medical Services	216	6	5	73	350		1,236	1	1		1,888
Facilities	58	1	5				1			1,495	1,560
HI&T	293										293
Pharmacy	4							111		2	117
Regional Services	109		3	24	202	5	682		1	5	1,031
Rehabilitation & Assessment Services	114	354	1	45	64		576	10	1	46	1,211
Surgery & Anaesthetics	239	10	4	15	487	1	1,520	17		7	2,300
Women & Children's	176	44	4	67	348	8	1,426	20	1	5	2,099
Total	**1,412**	**718**	**28**	**1,025**	**1,615**	**14**	**5,487**	**168**	**4**	**1,576**	**12,047**

1.4.3 The additional 4,683 staff within Glasgow Royal Infirmary are across the following job families:

	Administrative Services	Allied Health Profession	Executive	Healthcare Sciences	Medical and Dental	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Total	676	398	10	375	543	1,930	50	5	696	4,683

1.5 Corporate Departments

1.5.1 The Board is finalising its organisational review which involve senior managers identified in the above table and also 461 corporate staff who may be hosted on affected sites. These posts are excluded from the plan and will be addressed separately.

1.6 Projected Workforce on Southern General Campus

1.6.1 Taking account of assumed workforce changes and planned bed model the total workforce on the Southern General Campus is projected to be 10,561 staff. This takes into account the staff moving from Gartnavel General and the planned reduction in inpatient beds.

1.6.2 The following table shows each of the affected sites and the approximate number of staff affected and the site they are anticipated to move to. This includes all Acute staff within the sites together with Pharmacy and Medical Records staff.

Current Location	Move to GGH	Move to GRI	Move to NSGH	Move to NSGH-Children's	Move to NVH	No Change	TBC
Beatson			38			755	
Gartnavel Gen		36	528			1,336	
Glasgow Royal Infirmary						4,683	
Mansionhouse Unit			254				22
Royal Alexandra Hosp			10			3,023	
Southern General			1,739			2,932	3
Stobhill			4			131	
Victoria Inf	12		1,386		3		11
Western Infirmary	48	53	1,748				11
Yorkhill			344	1,577			4
Total	60	89	6,051	1,577	3	12,860	51

	Movement within Current Site
	Change of working location
	No change of location
	To Be Confirmed

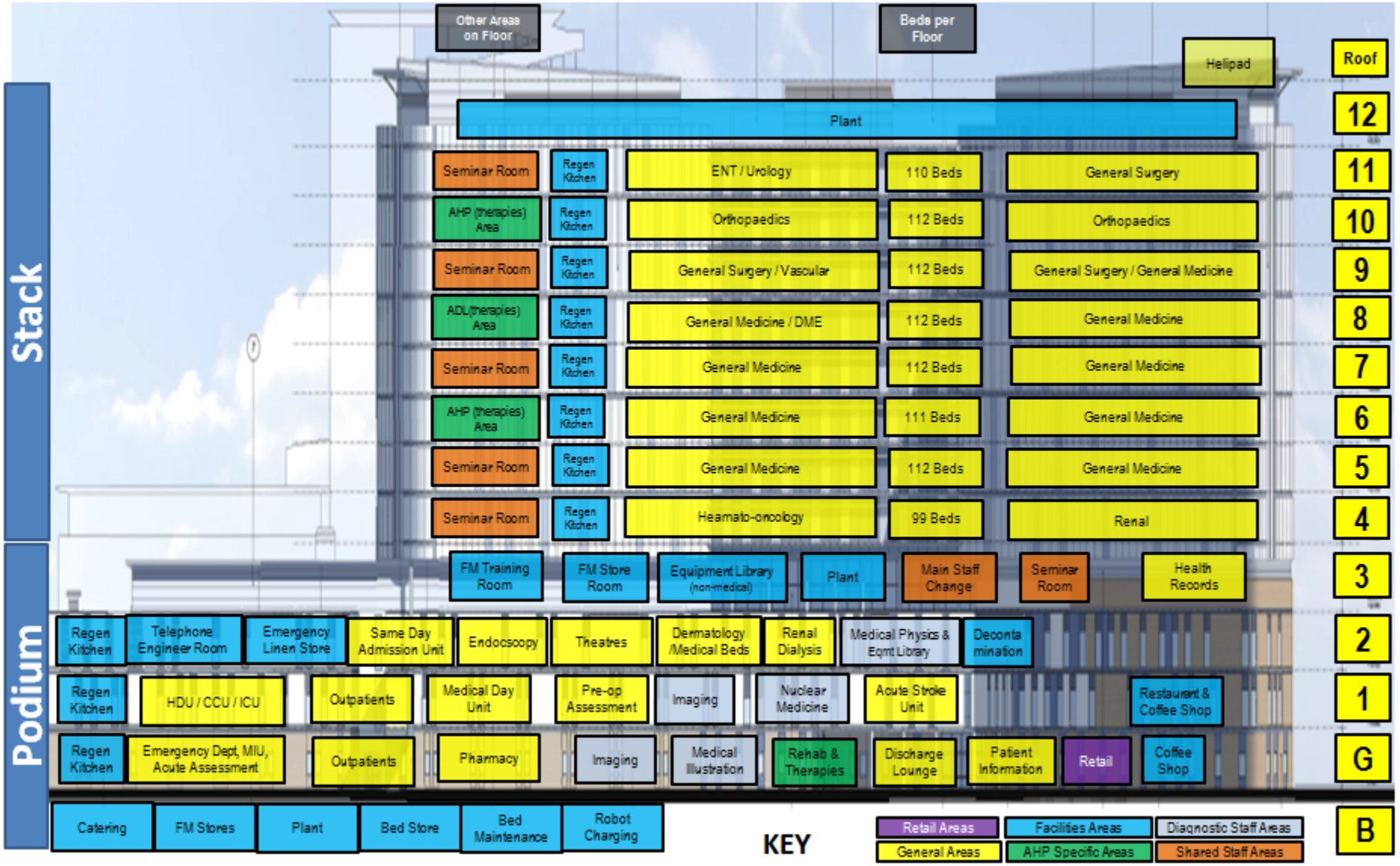
1.6.3 Work to develop outpatients service at Gartnavel General will result in approximately 50 staff remaining in the West of the city until the development is concluded

1.6.4 The table below reflects the possible final position – after the complete closure of the Western Infirmary. The total number of staff anticipated on the Southern General Campus is 10,628 – including Medical Records and Acute staff.

	Acute and Health Records
Southern General Campus	10,561
Glasgow Royal Infirmary	4,772
Gartnavel General	1,396

Section 2: new South Glasgow Adult Hospital

2.0 Overview of new South Glasgow Adult Hospital



2.1 Current Staff

2.1.1 Southern General Hospital

There are currently 4,674 Acute Services staff located in the Southern General Campus. Of these, 2,932 will not move into the new South Glasgow Hospital, for example those based within Langlands, Neurosciences, Spinal Injuries, WESTMARC and staff within the existing Maternity Building.

Summary of staff by Acute Services Directorate and Job Family (April 2014)

Directorate / Job Family	Administrative Services	Allied Health Profession	Executive	Healthcare Sciences	Medical and Dental	Medical and Dental Support	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Grand Total
Diagnostic Services	122	94	6	533	118		15	5		13	**906**
Emergency Care & Medical Services	50		1	16	98		307				**472**
Facilities	19	1	5							488	**513**
HI&T	131										**131**
Pharmacy	1							24			**25**
Regional Services	86		2	22	142	5	493			5	**755**
Rehabilitation & Assessment Services	80	177		39	25		269	7	1	43	**641**
Surgery & Anaesthetics	63			6	154		454			6	**683**
Women & Children's	36	11			90		410			1	**548**
SGH Total	**588**	**283**	**14**	**616**	**627**	**5**	**1,948**	**36**	**1**	**556**	**4,674**

The table below provides a list of the departments within the Southern General which are currently assumed to be moving into the nSGHs and their associated floor(s), where applicable – updated April, 2014. The information is provided through Cost Centres which are regularly updated.

Directorate	Department/Area/Ward	Headcount	Assumed Floor
Diagnostics	Sgh -Clin Engineering Physics	4	nSGH - 2nd Floor
Diagnostics	Sgh -Core Physics	6	nSGH - 2nd Floor
Diagnostics	Sgh -Equipment Physics	16	nSGH - 2nd Floor
Diagnostics	Sgh -Nuclear Medicine	19	nSGH - 1st Floor
Diagnostics	Sgh -Radiography Main Dept	101	nSGH - Ground/1st Floors
ECMS	Sgh Rheum Anti Tnf Day Wd	1	nSGH
ECMS	Sgh-A&E-Cdu	1	nSGH - Ground Floor
ECMS	Sgh-A&E-Dept	64	nSGH - Ground Floor
ECMS	Sgh-A&E-Emerg Rec Wd 20	37	nSGH - Ground Floor
ECMS	Sgh-A&E-Enp Nurses	1	nSGH - Ground Floor
ECMS	Sgh-A&E-Stag Nurse	1	nSGH - Ground Floor
ECMS	Sgh-Acute Med-Csm South	3	nSGH
ECMS	Sgh-Acute Med-Gen Med Wd 1	1	nSGH - General Medicine
ECMS	Sgh-Acute Med-Gen Med Wd25	5	nSGH - General Medicine
ECMS	Sgh-Acute Med-Med Secretaries	3	nSGH - Office Block
ECMS	Sgh-Acute Med-Medics/Admin	61	Across Medical Floors
ECMS	Sgh-Acute Med-Osteo	4	nSGH
ECMS	Sgh-Acute Med-Wd 22	22	nSGH - General Medicine
ECMS	Sgh-Cardio-Ccu	30	nSGH - 1st Floor
ECMS	Sgh-Cardio-Ecg	19	nSGH
ECMS	Sgh-Derm- Out Patients	1	nSGH - 2nd Floor
ECMS	Sgh-Derm-Contact Dermatitis	3	nSGH - 2nd Floor
ECMS	Sgh-Derm-Op	25	nSGH - 2nd Floor
ECMS	Sgh-Derm-Wd 52	19	nSGH - 2nd Floor
ECMS	Sgh-Diab-Clinic	4	nSGH
ECMS	Sgh-Diab-Medics/Admin	3	nSGH
ECMS	Sgh-Gastro-Medics/Admin	8	nSGH - General Medicine
ECMS	Sgh-Gastro-Wd 26	23	nSGH - General Medicine
ECMS	Sgh-Resp-Lung Cancer Tracker	1	nSGH
ECMS	Sgh-Resp-Medics/Admin	9	nSGH - General Medicine
ECMS	Sgh-Resp-Wd 23	26	nSGH - General Medicine
ECMS	Sgh-Rheum-Medics/Admin	11	nSGH - General Medicine

ECMS	Sgh-Rheum-Wd 21	28	nSGH - General Medicine
Facilities	Facs-Directorate Admin	9	nSGH - Laboratory
Facilities	Sgh-Domestic Services	198	Across South Campus
Facilities	Sgh-Endoscopy Decontam	6	nSGH - 2nd Floor
Facilities	Sgh-Estates	43	Across South Campus
Facilities	Sgh-Hospital Cashier	2	nSGH - Ground Floor
Facilities	Sgh-Patient Catering	126	nSGH
Facilities	Sgh-Portering & Transport	97	Across South Campus
Facilities	Sgh-Site Management	15	nSGH - Laboratory
Facilities	Sgh-Dining Room	8	nSGH - 1st Floor
Facilities	Sgh-Aroma Coffee Shop	4	nSGH - 1st Floor
Surgery	Sgh- Ent - Admin	4	nSGH
Surgery	Sgh- Ent - Audiology	6	nSGH - 1st Floor
Surgery	Sgh- Ent - Wd 62 (Neuro)	37	nSGH - 11th Floor - ENT
Surgery	Sgh- Gen Surg - Admin	3	nSGH
Surgery	Sgh- Gen Surg - General	32	Across Surgery Floors (Medical Staff)
Surgery	Sgh- Gen Surg - Wd 3	23	nSGH - General Surgery
Surgery	Sgh- Gen Surg - Wd 4	22	nSGH - General Surgery
Surgery	Sgh- General Opd	20	nSGH - Ground/1st Floors
Surgery	Sgh- Urology - General	15	Across Surgery Floors (Medical Staff)
Surgery	Sgh- Urology - Wd 10	19	nSGH - General Surgery
Surgery	Sgh- Urology - Wd 11	19	nSGH - General Surgery
Surgery	Sgh- Urology - Wd 9	19	nSGH - General Surgery
Surgery	Sgh- Urology Opd	4	nSGH - Ground/1st Floors
Surgery	Sgh-Crit Care-Hdu	21	nSGH - 1st Floor
Surgery	Sgh-Crit Care-Itu	42	nSGH - 1st Floor
Surgery	Sgh-Crit Care-Pain Service	1	nSGH - 1st Floor
Surgery	Sgh-Orthopaed-General	40	Across Surgery Floors (Medical Staff)
Surgery	Sgh-Orthopaed-Nurse Pract	3	nSGH - 10th Floor
Surgery	Sgh-Orthopaed-Opd	14	nSGH - 10th Floor
Surgery	Sgh-Orthopaed-Wd 2	25	nSGH - 10th Floor
Surgery	Sgh-Orthopaed-Wd 5	25	nSGH - 10th Floor
Surgery	Sgh-Orthopaed-Wd 6	25	nSGH – 10th Floor
Surgery	Sgh-Theatres -Main Theatres	182	nSGH - 2nd Floor
HI&T	Hiks-Medical Records Sgh	67	Westway
HI&T	Hiks-Legal Dept South	4	TBC

2.1.2 Victoria Infirmary and Mansionhouse Unit

There are currently 1,412 Acute Services staff located in the Victoria Infirmary and an additional 276 within Mansionhouse Unit.

The tables below provide a list of the constituent departments which account for the Victoria Infirmary and Mansionhouse Unit headcount – by Directorate.

Mansionhouse Unit

Directorate / Job Family	Administrative Services	Allied Health Profession	Medical and Dental	Nursing and Midwifery	Other Therapeutic	Support Services	Total
Facilities						45	45
Rehabilitation & Assessment Services	15	18	14	180	3	1	231
MHU Total	15	18	14	180	3	46	276

Directorate	Department/Area/Ward	Headcount	Assumed Floor
Facilities	Mhu-Domestic Services	31	Across South Campus
Facilities	Mhu-Patient Catering	10	Across South Campus
Facilities	Mhu-Portering & Transport	5	Across South Campus
RAD	Mhu Cathkinview Ward	26	SGH/nSGH
RAD	Mhu-Geriatric Long Stay	1	SGH/nSGH
RAD	Mhu-Medical And Nurse Admin	30	SGH/nSGH
RAD	Mhu-Parkinsons Disease	1	SGH/nSGH
RAD	Mhu-Ward Lomond View	26	SGH/nSGH
RAD	Mhu-Ward North 3	28	SGH/nSGH
RAD	Mhu-Ward South 2	30	SGH/nSGH
RAD	Mhu-Ward South 3	30	SGH/nSGH
RAD	Rad-Weight Management Serv	22	TBC
RAD	Mhu Tissue Viability	2	SGH/nSGH
RAD	Mhu Occupational Therapy	3	SGH/nSGH
RAD	Mhu-Winter Ward 1	36	SGH/nSGH

Victoria Infirmary

Directorate / Job Family	Administrative Services	Allied Health Profession	Snr. Managers	Healthcare Sciences	Medical and Dental	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Diagnostic Services	21	62		20	14	10				**127**
Emergency Care & Medical Services	54	1	4	18	91	369				**537**
Facilities	7								196	**203**
HI&T	26									**26**
Pharmacy	1						14		1	**16**
Regional Services	6		1		1	33		1		**42**
Rehabilitation & Assessment Services	2	11			1	2				**16**
Surgery & Anaesthetics	57		4		89	294			1	**445**
Total	**174**	**74**	**9**	**38**	**196**	**708**	**14**	**1**	**198**	**1412**

Directorate	Department/Area/Ward	Headcount	Assumed Floor
Diagnostics	Vic -Equipment Physics	3	nSGH - 2nd Floor
Diagnostics	Vic -Haematology Lab	16	nSGH - Laborartory
Diagnostics	Vic -Nuclear Medicine	2	nSGH - 1st Floor
Diagnostics	Vic -Radiography Main Dept	102	nSGH - Ground/1st Floors
Diagnostics	Vic-Haem-Reg	4	New Victoria Hospital
ECMS	City-Resp-Vic	7	nSGH
ECMS	Vic-A&E-Assessment Unit Wd B	7	nSGH - Ground Floor
ECMS	Vic-A&E-Csm South	6	nSGH
ECMS	Vic-A&E-Dept	76	nSGH - Ground Floor
ECMS	Vic-A&E-Emerg Rec Wd 12a	36	nSGH - Ground Floor
ECMS	Vic-A&E-Emerg Rec Wd 14	33	nSGH - Ground Floor
ECMS	Vic-A&E-Mnp Nurses	2	nSGH - General Medicine

ECMS	Vic-Acute Med-Gen Med Wd 1	24	nSGH - General Medicine
ECMS	Vic-Acute Med-Gen Med Wd 15	25	nSGH - General Medicine
ECMS	Vic-Acute Med-Gen Med Wd 17	24	nSGH - General Medicine
ECMS	Vic-Acute Med-Gen Med Wd 7	27	nSGH - General Medicine
ECMS	Vic-Acute Med-Gen Med Wd A	30	nSGH - General Medicine
ECMS	Vic-Acute Med-Med Secretaries	8	nSGH - Office Block
ECMS	Vic-Acute Med-Medics/Admin	48	nSGH - General Medicine
ECMS	Vic-Acute Med-Resp Wd 6/10	51	nSGH - General Medicine
ECMS	Vic-Acute Med-Wd 3	26	nSGH - General Medicine
ECMS	Vic-Cardio-Chest Pain Nurse	2	nSGH - General Medicine
ECMS	Vic-Cardio-Ecg	20	nSGH
ECMS	Vic-Cardio-Medics/Admin	7	nSGH - General Medicine
ECMS	Vic-Diab-Ip	5	nSGH
ECMS	Vic-Gastro-Medics/Admin	9	nSGH - General Medicine
ECMS	Vic-Resp-Lung Cancer Tracker	1	nSGH
ECMS	Vic-Resp-Medics/Admin	11	nSGH - General Medicine
ECMS	Vic-Rheum-Medics/Admin	7	nSGH - General Medicine
ECMS	Vic-Ward 2-Medical Ward	25	nSGH - General Medicine
Facilities	Vic-Cssd	13	nSGH - 2nd Floor
Facilities	Vic-Domestic Services	80	Across South Campus
Facilities	Vic-Estates	22	Across South Campus
Facilities	Vic-Hospital Cashier	2	nSGH - Ground Floor
Facilities	Vic-Patient Catering	40	nSGH
Facilities	Vic-Portering & Transport	40	Across South Campus
Facilities	Vic-Site Management	4	nSGH - Laborartory
Facilities	Vic-Stores	5	Basement
Facilities	Vic-Tssu	1	nSGH - Laborartory
Facilities	Vic-Dining Room	2	nSGH - 1st Floor
RAD	Rad-Dir Admin-Ahp Services	1	nSGH
RAD	Vic-Sctci	3	nSGH
RAD	Vic-Speech Therapy	10	nSGH - Ground Floor
RAD	Vic-Palliative Care	1	nSGH
Surgery	S&A-Orthopaed-Brachial Plexus	1	nSGH
Surgery	Vic Anaesthetic Res (Davids)	1	nSGH
Surgery	Vic- Ent - Medical	16	Across Surgery Floors (Medical Staff)
Surgery	Vic- Gen Surg - Admin	9	nSGH - General Surgery
Surgery	Vic- Gen Surg - Admin (Med)	4	Across Surgery Floors (Medical Staff)
Surgery	Vic- Gen Surg - Admin I/P	5	nSGH - General Surgery
Surgery	Vic- Gen Surg - General	40	Across Surgery Floors (Medical Staff)
Surgery	Vic- Gen Surg - Nursing I/P	3	nSGH - General Surgery
Surgery	Vic- General Surg - Wd 16	20	nSGH - General Surgery
Surgery	Vic- General Surg - Wd 5	16	nSGH - General Surgery
Surgery	Vic- General Surg - Wd 9	20	nSGH - General Surgery
Surgery	Vic- Urology - Admin	1	nSGH - 11th Floor
Surgery	Vic-Anaesth -Admin Staff	4	nSGH
Surgery	Vic-Crit Care-Ccu	38	nSGH - 1st Floor
Surgery	Vic-Crit Care-Hdu	28	nSGH - 1st Floor
Surgery	Vic-Crit Care-Itu	20	nSGH - 1st Floor
Surgery	Vic-Crit Care-Pain Service	1	nSGH
Surgery	Vic-Orthopaed-Medical	19	Across Surgery Floors (Medical Staff)
Surgery	Vic-Orthopaed-Medical Admin	8	nSGH - Office Block
Surgery	Vic-Orthopaed-Wd 4/8	44	nSGH – 10th Floor
Surgery	Vic-Orthopaed-Wd D	21	nSGH – 10th Floor
Surgery	Vic-Theatres -Main Theatres	76	nSGH - 2nd Floor

2.1.3 Western Infirmary

There are currently 1,860 Acute Services staff located in the Western Infirmary.

Summary table by Directorate and Job Family

Directorate / Job Family	Administrative Services	Allied Health Profession	Snr. Managers	Healthcare Sciences	Medical and Dental	Medical and Dental Support	Nursing and Midwifery	Other Therapeutic	Support Services	Total
Diagnostic Services	38	109		23	22		15	2		**209**
Emergency Care & Medical Services	66	1		26	130		313			**536**
Facilities	9								230	**239**
HI&T	91									**91**
Pharmacy								12		**12**
Regional Services	5			2	34		143			**184**
Rehabilitation & Assessment Services	1	33	1		24		33			**92**
Surgery & Anaesthetics	39				114	1	343			**497**
WIG Total	**249**	**143**	**1**	**51**	**324**	**1**	**847**	**14**	**230**	**1860**

The tables below provide a list of the constituent departments which account for the Western Infirmary headcount – by Directorate.

Directorate	Department/Area/Ward	Headcount	Assumed Floor
Diagnostics	Wig -Phlebotomy Service	17	nSGH
Diagnostics	Wig -Radiography Main Dept	174	nSGH - Ground/1st Floors
Diagnostics	Wig -Radionuclide Dispensary	9	nSGH
Diagnostics	Wig Vascular Radiology	1	nSGH
ECMS	Wig Cardiac Research Salary	1	nSGH
ECMS	Wig Epilepsy Res (Salaries)	2	nSGH
ECMS	Wig Gastro/Ology Research	1	nSGH
ECMS	Wig Joint Cardiac Research	1	nSGH
ECMS	Wig Respiratory Res	1	nSGH
ECMS	Wig Stroke Unit Research	2	nSGH
ECMS	Wig-A&E-Csm West	2	nSGH
ECMS	Wig-A&E-Dept	97	nSGH - Ground Floor
ECMS	Wig-A&E-Emerg Rec Wd F1	29	nSGH - Ground Floor
ECMS	Wig-A&E-Emerg Rec Wd F2	31	nSGH - Ground Floor
ECMS	Wig-A&E-Mau Wd Fb	37	nSGH - Ground Floor
ECMS	Wig-A&E-Nurse Practitioners	7	nSGH - Ground Floor
ECMS	Wig-A&E-Winter Wd G3	16	nSGH - General Medicine
ECMS	Wig-Acute Med-Admin	10	nSGH - General Medicine
ECMS	Wig-Acute Med-Anaphylaxis Serv	5	nSGH
ECMS	Wig-Acute Med-Ant Micro Op&Hom	3	nSGH - Ground/1st Floors
ECMS	Wig-Acute Med-Blood Press Op	3	nSGH - Ground/1st Floors
ECMS	Wig-Acute Med-Bone Met Op	3	nSGH - Ground/1st Floors
ECMS	Wig-Acute Med-Clin Nurse Spec	8	nSGH
ECMS	Wig-Acute Med-Csm West	8	nSGH
ECMS	Wig-Acute Med-Gen Med Lab	5	nSGH
ECMS	Wig-Acute Med-Gen Med Wd E3/4	5	nSGH - General Medicine
ECMS	Wig-Acute Med-Gen Med Wd L8	35	nSGH - General Medicine
ECMS	Wig-Acute Med-Medics/Admin	93	nSGH - General Medicine
ECMS	Wig-Acute Med-Osteo	4	nSGH - General Medicine
ECMS	Wig-Cardio-Ecg	22	nSGH
ECMS	Wig-Cardio-Heart Failure	22	nSGH
ECMS	Wig-Cardio-Medics/Admin	9	nSGH - General Medicine
ECMS	Wig-Cardio-Nurse Practitioners	2	nSGH - General Medicine
ECMS	Wig-Cardio-Op	1	nSGH
ECMS	Wig-Cardio-Rah Icc	3	nSGH - General Medicine
ECMS	Wig-Cardio-Wd F3	28	nSGH - General Medicine
ECMS	Wig-Cardio-Wd F4 Ccu	22	nSGH - 1st Floor
ECMS	Wig-Derm-General	7	nSGH - 2nd Floor
ECMS	Wig-Derm-Wd G9	10	nSGH - 2nd Floor
Facilities	Wig-Domestic Services	100	Across South Campus

Facilities	Wig-Estates	37	Across South Campus
Facilities	Wig-Patient Catering	40	nSGH
Facilities	Wig-Portering	49	Across South Campus
Facilities	Wig-Site Management	3	nSGH - Laboratory
Facilities	Wig-Stores	4	nSGH
Facilities	Wig-Dining Room	4	nSGH - 1st Floor
Facilities	Wig-Domestic Hospital Costs	1	Across South Campus
Regional Services	Reg-Csm Team Renal	4	nSGH
Regional Services	Wig Epilepsy Service	5	nSGH
Regional Services	Wig-G6 Pd Unit	5	nSGH
Regional Services	Wig-G6 Rdu	13	nSGH - 2nd Floor
Regional Services	Wig-L7 Renal Centre (Hdu)	56	nSGH - 4th Floor
Regional Services	Wig-L7 Renal East	28	nSGH - 4th Floor
Regional Services	Wig-L7 Renal West	33	nSGH - 4th Floor
Regional Services	Wig-L9 Renal Surgical	42	nSGH - 4th Floor
Regional Services	Wig-Neurophysiology	1	SGH - Institute
RAD	Rad-Ahp Lead	11	nSGH
RAD	Wig-Dme Medical Staff	22	nSGH
RAD	Wig-Eld & Op	24	nSGH
RAD	Wig-Palliative Care	1	nSGH
RAD	Wig-Speech Therapy	2	nSGH
RAD	Wig-Ward G2 Stroke	23	nSGH - 1st Floor
Surgery	S&A- Gen Surg - Admission Nth	7	nSGH
Surgery	Wig- Gen Surg - General	6	nSGH - General Surgery
Surgery	Wig- Gen Surg - Vasc Liason	1	nSGH - General Surgery
Surgery	Wig- Gen Surg - Vasc Medical	6	nSGH - General Surgery
Surgery	Wig- Gen Surg - Wd L10 East	34	nSGH - General Surgery
Surgery	Wig- Gen Surg - Wd L10 West	30	nSGH - General Surgery
Surgery	Wig- Gen Surg - Wd L9 (Vasc)	48	nSGH - General Surgery
Surgery	Wig- General Opd	12	nSGH - Ground/1st Floors
Surgery	Wig- Urology - General	14	nSGH - General Surgery
Surgery	Wig-Anaesth -Medical Staff	75	Across Surgery Floors (Medical Staff)
Surgery	Wig-Crit Care-Itu	67	nSGH - 1st Floor
Surgery	Wig-Orthopaed-General	49	nSGH - General Surgery
Surgery	Wig-Orthopaed-Nurse Pract	4	nSGH - General Surgery
Surgery	Wig-Orthopaed-Opd	12	nSGH - Ground/1st Floors
Surgery	Wig-Orthopaed-Wd Level 8	34	nSGH - General Surgery
Surgery	Wig-Theatres -Th Beatson	4	nSGH - 2nd Floor
Surgery	Wig-Theatres -Th L5 Renal	42	nSGH - 2nd Floor
Surgery	Wig-Theatres -Theatres L2	48	nSGH - 2nd Floor
Surgery	Wig Theatres Th L5 General	1	nSGH - 2nd Floor
Surgery	Wig-Orthopaed-Dir Admin	1	nSGH

2.1.4 Gartnavel General Hospital

There are currently 1,892 Acute Services staff located in Gartnavel General. Additionally, there are a further 39 staff within the Beatson Oncology Centre affected by the move to nSGH.

Summary table by Directorate and Job Family

Division name	Administrative Services	Allied Health Profession	Healthcare Sciences	Medical and Dental	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Diagnostic Services	14	2	189	3	4	2		3	217
Emergency Care & Medical Services	46	4	13	31	247	1	1		343
Facilities	13				1			341	355
HI&T	15								15
Pharmacy						28		1	29
Regional Services	12			25	13				50
Rehabilitation & Assessment Services	15	75	6		92			2	190
Surgery & Anaesthetics	80	10	9	130	429	17			675
Women & Children's	1				25				26
GGH Total	**196**	**91**	**217**	**189**	**811**	**48**	**1**	**347**	**1900**

The tables below provide a list of the constituent departments which account for the Gartnavel General headcount – by Directorate.

Division name	Department name	Affected
Diagnostic Services	Diag-Vascular Access Service	Yes
Emergency Care & Medical Services	Ggh-Acute Med-Admin	Yes
Emergency Care & Medical Services	Ggh-Acute Med-Med Day Wd 7a	Yes
Emergency Care & Medical Services	Ggh-Diab-Centre	Yes
Emergency Care & Medical Services	Ggh-Diab-Wd 8b	Yes
Emergency Care & Medical Services	Ggh-Gastro-Medics/Admin	Yes
Emergency Care & Medical Services	Ggh-Gastro-Wd 8c	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Brownlee Bbv	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Brownlee Ward	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Cast Team	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Hep Clinic	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Hiv Peer Support	Yes
Emergency Care & Medical Services	Ggh-Inf Dis-Medics/Admin	Yes
Emergency Care & Medical Services	Ggh-Resp-Cystic Fibrosis Wd 6c	Yes
Emergency Care & Medical Services	Ggh-Resp-Cystic Fibrosis Wd 7c	Yes
Emergency Care & Medical Services	Ggh-Resp-Ip	Yes
Emergency Care & Medical Services	Ggh-Resp-Wd 6c	Yes
Emergency Care & Medical Services	Ggh-Resp-Wd 7c	Yes
Emergency Care & Medical Services	Ggh-Rheum-Medics/Admin	Yes
Emergency Care & Medical Services	Ggh-Rheum-Wd 8a	Yes
Emergency Care & Medical Services	Ggh-Ward 2c	Yes
Rehabilitation & Assessment Services	West Med Physio Rot	Yes
Surgery & Anaesthetics	Ggh- Ent - Admin	Yes
Surgery & Anaesthetics	Ggh- Ent - Admin (Ward)	Yes
Surgery & Anaesthetics	Ggh- Ent - General	Yes
Surgery & Anaesthetics	Ggh- Gen Surg - General	Yes
Surgery & Anaesthetics	Ggh- Gen Surg - Wd L5c (Gast)	Yes
Surgery & Anaesthetics	Ggh- Urology - Cryotherapy	Yes
Surgery & Anaesthetics	Ggh- Urology - Wd6a/B	Yes
Surgery & Anaesthetics	Ggh-Crit Care-Hdu	Yes
Surgery & Anaesthetics	Ggh-Ent Ward 4a	Yes
Surgery & Anaesthetics	Ggh-Orthopaed-Wd 2a/B	Yes

Beatson Oncology Centre

Beatson	Boc-Ward B8	21	Y
Beaston	Boc-Ward B9	17	Y

Two wards within the Beatson Oncology Centre related to Bone Marrow Transplant (BMT) are identified as transferring to the Adults' hospital with relevant staff transfer.

2.1.5 Glasgow Royal Infirmary

There are currently 4,492 Acute Services staff located at Glasgow Royal Infirmary.

Summary table by Directorate and Job Family

Directorate / Job Family	Administrative Services	Allied Health Profession	Snr. Managers	Healthcare Sciences	Medical and Dental	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Diagnostic Services	82	107		322	40	10				561
Emergency Care & Medical Services	112	8	1	40	201	731		4	1	1,098
Facilities	79		4						691	774
HI&T	176									176
Pharmacy	5						48		1	54
Regional Services	38		1	1	47	182	2			271
Rehabilitation & Assessment Services	35	282	3		38	252				610
Surgery & Anaesthetics	132	1	1	4	197	740		1	2	1,078
Women & Children's	17			8	20	15			1	61
GRI Total	**676**	**398**	**10**	**375**	**543**	**1,930**	**50**	**5**	**696**	**4,683**

The majority of areas are unaffected by movement to South Glasgow however a change in the referral pathway from Maryhill from the Western to Glasgow Royal results in an assumed additional 10,000 patients per year arriving at Glasgow Royal Infirmary. The Emergency Care and Medical Services Workforce Plan includes provision for additional nursing at Glasgow Royal Infirmary to support this activity. The increase at GRI would be:

Emergency Department (GRI) – Nursing Workforce Requirements

Band 5:	6.88
Band 3:	1.72
Total:	**8.60**

In total 89 additional staff are anticipated to move to Glasgow Royal Infirmary including:

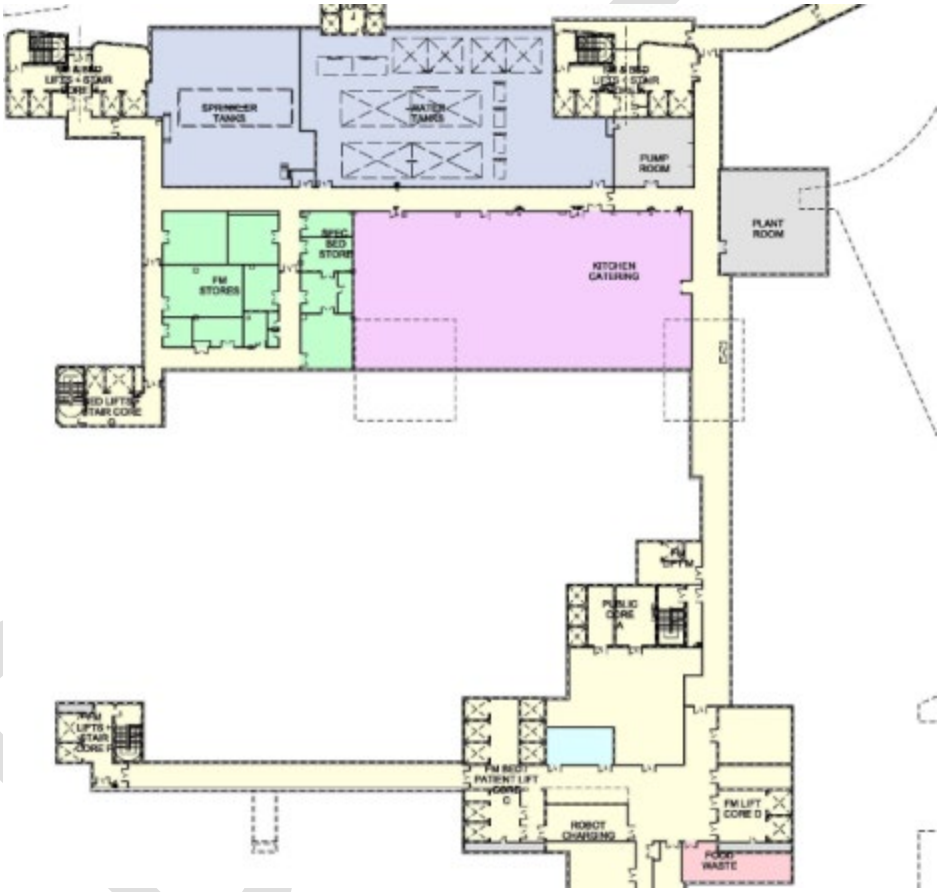
Emergency care and Medical Services (including the above) – 53

2.2 new South Glasgow Adult Hospital – Floor by Floor Overview

2.2.1 This section provides an overview of the main departments by floor and the associated Directorates involved. It is assumed that some Directorates will work across all areas, for example Facilities with Portering, Domestics etc, Pharmacy and Diagnostic Imaging. The Directorates affected by each floor outlines where there are specific departments/wards for that Directorate.

Basement

2.2.2 The Basement floor consists only of areas related to Facilities Management. It also contains the link tunnel to the Laboratory Building.



2.2.3 Departments/Areas

FM Stores, Hospital Plant, Bed Store, Bed Maintenance and Robot Charging.

Catering - Frozen meal products will be delivered to the Central Catering Facility (situated in the basement of the new hospital) for storage until required. Frozen food items and chilled meal products will be transported by Automated Guided Vehicles (AGVs) to the appropriate regeneration kitchen, situated on each floor of the new hospital. Regeneration kitchens are staffed from 0700-2000 Monday to Sunday.[3]

Directorates in area: Facilities Only.

[3] New SGH Patients Operating Procedures, August 2013, Draft 3

Facilities (nSGH) - Workforce Requirements

Positive number indicates surplus of staff

Positive indicates surplus

PORTERING	Band 8A	Band 7	Band 6	Band 5	Band 4	Band 3	Band 2	Band 1	TOTAL
AVAILABLE (Actual)	0.0	0.0	0.0	0.0	4.0	26.0	182.8	0.5	213.3
Required	0.0	0.0	0.0	0.0	0.0	14.0	161.9	0.0	175.9
Variance	0.0	0.0	0.0	0.0	4.0	12.0	20.9	0.5	37.4

ESTATES	Band 8A	Band 7	Band 6	Band 5	Band 4	Band 3	Band 2	Band 1	TOTAL
AVAILABLE (Actual)				72.0	13.0	0.0	24.0		109.0
Required				58.0	11.0	0.0	14.0		83.0
Variance	0.0	0.0	0.0	14.0	2.0	0.0	10.0	0.0	26.0

ESTATES - Senior Staff (Band 6+)	Bands 6+	TOTAL
AVAILABLE (Actual)	6	6.0
Required	13	13.0
Variance	-7.0	-7.0

CATERING	Band 8A	Band 7	Band 6	Band 5	Band 4	Band 3	Band 2	Band 1	TOTAL
AVAILABLE (Actual)	0.0	0.0	0.0	0.0	6.2	34.6	118.3	0.0	159.0
Required					5.0	8.8	100.4		114.2
Variance	0.0	0.0	0.0	0.0	1.2	25.8	17.9	0.0	44.8

DOMESTICS	Band 8A	Band 7	Band 6	Band 5	Band 4	Band 3	Band 2	Band 1	TOTAL
AVAILABLE (Actual)	0.0	0.0	0.0	0.0	9.3	19.6	294.2	0.0	323.0
Required						24.6	295.0		319.6
Variance	0.0	0.0	0.0	0.0	9.3	-5.0	-0.8	0.0	3.4

ADMIN, inc FIRE OFFICERS	Band 8A	Band 7	Band 6	Band 5	Band 4	Band 3	Band 2	Band 1	TOTAL
AVAILABLE (Actual)	0.0	0.0	2.0	2.0	5.0	6.7	17.6	0.0	33.3
Required			2.0	1.0	2.0	5.0	13.4		23.4
Variance	0.0	0.0	0.0	1.0	3.0	1.7	4.2	0.0	9.9

This reflects an overall of surplus of staff within Facilities of 114.6 WTE. However, Facilities staff will be crucial to both the migration and decommissioning phases and therefore resources will be utilised effectively during the transition phase.

Ground Floor

The Ground Floor contains all entrances to the new South Glasgow Hospital including Emergency Department, Minor Injuries, Outpatients, Discharge Lounge and the main entrance into the atrium.

Emergency Department – The expected annual patient activity is 81,820[4]. In addition to this, 19,889 GP Referrals will go directly to the Immediate Assessment Unit within Acute Assessment.

Emergency Department (nSGH) - Nursing Workforce Requirements

Requirements		WTE
Band 7	=	7.92 (2/day+ 1/night shift)
Band 6	=	8.12 (2/day+ 1/night shift)
Band 5	=	42.07 (8/day + 8/night shift)
Band 3	=	15.78 (4/day + 2/night shift)
Total		**73.89**

Band 7 (floor controller)	=	2.64 (1x12hrs 7 days/wk)

Minor Injury Unit (MIU) – Expected annual patient activity of 16,717. 10 Bays, open 7 days per week, 9am-9pm. The ECMS Nursing Workforce plan also contains an increase to accommodate the

[4] Attendance figures taken from nSGHED Operational Policy V11, dated 12th April 2013

planned Minor Injury Unit at Gartnavel and an increase at New Victoria MIU in recognition of increasing activity. The requirements for each of the MIUs are shown below:

Minor Injuries – Nursing Workforce Requirements

Requirements	GGH	VIC	nSGH	Total
Band 7	10.56	10.56	2.64	23.76
Band 6	0	0	2.64	2.64
Band 3	2.64	5.28	2.64	10.56
Total	**13.2**	**15.84**	**7.92**	**36.96**

Acute Assessment Unit – This area will accept patients from the Emergency Department and GP referrals. This is a 118 bedded area, comprising of 90 Acute Receiving and 28 Immediate Assessment beds. The beds are nominally allocated 2/3 Medical including DME, 1/3 Surgical. It is anticipated around 25,510 of the 81,820 attendances will be admitted into the Acute Receiving Unit. Of the 19,889 GP Referrals, 15,191 are expected to be admitted into the Acute Receiving Unit.[5] A Nurse to Bed Ratio of 1.53 has been applied to all areas of Acute Assessment with a skill-mix of 75% registered, 25% unregistered at 100% occupancy.

Additionally, patients could be admitted directly to a specialty. 5,166 patients are expected to be admitted in this way to the following specialties[6]:

Ear, Nose &Throat	264
Gynaecology	526
Neurosurgery	227
Ophthalmology	12
Orthopaedics	4,137

Acute Assessment Unit - MEDICINE – Nursing Workforce Requirements

	IAU	IAU floor controller	AAU1 (16 Beds)	AAU2 (16 Beds)	AAU3 (16 Beds)	AAU4 (12 Beds)	MNPs	Acute Outpatient	Total
Band 7	1	2.64	2.64	2.64	2.64	0.6	7.9		20.1
Band 6	7.9		3.82	3.82	3.82	2.0			21.4
Band 5	23.8		13.15	13.15	13.15	10.5		2.6	76.4
Band 3								2.6	2.6
Band 2	10.7		7.89	7.89	7.89	5.3			39.6
Total	**43.4**	**2.64**	**27.5**	**27.5**	**27.5**	**18.4**	**7.9**	**5.3**	**160.1**

In addition to these requirements there are 38 Surgical Assessment beds the requirements for which are:

Band 7	1.00
Band 6	3.00
Band 5	39.61
Band 2	14.54
Total	**58.15**

[5] Operational Policy Template Version 6 ARU/IAU, dated February 2013
[6] Operational Policy Template Version 6 ARU/IAU, dated February 2013

Imaging - The Imaging Department extends across both the Ground and 1st Floors. The Imaging Department core hours are Monday – Saturday, 8-8pm, Sunday 9-5pm.[7] Emergency Referrals – A restricted range of urgent examinations is available out with the above hours over 365 days/year. A ten bed patient observation area is available in the Imaging Department, on Level 1, co-located with the Interventional Suite and with immediate access to clinical staff. This resource is primarily intended for patients attending imaging requiring a higher level of care provided by a team of registered nurses and clinicians. Patient requiring this level of care can be broadly categorised as follows:

Interventional Day Case: **4 beds**
Interventional Cases Pre and Post Procedure observation: **2 Beds**
In Patients attending Non Interventional Imaging requiring clinical/nursing support: **4 Beds**
Outpatients attending Non-Interventional Imaging requiring clinical / nursing support Included in inpatient 4 bed allocation.

A limited range of bedside mobile imaging is available for patients unable to attend the Imaging Department e.g. CCU, ITU and ED. This service is restricted to the seriously ill patient. Diagnostic and image guided Interventional imaging is available in Adult Theatres in the form of mobile X-ray units, mobile Image Intensifiers and static hybrid interventional theatres. All diagnostic images and radiological reports will be accessible via PACS from networked PC terminals. The Imaging Department will provide an imaging service for:

- In-patients
- Outpatients
- AAU patients
- ED patients
- G.P. referred patients

The service includes:

- Plain film radiography
- Fluoroscopy
- Ultrasound
- Computerised Tomography (CT) Scanning
- Magnetic Resonance Imaging (MRI)
- Mammography
- Operating theatre imaging
- Interventional Radiology (including vascular)
- Nuclear Medicine

Medical Illustration - The unit provides clinical photography and video services to both the adult and paediatric hospitals. Although a single unit, the department has separate adult and paediatric entrances, reception/waiting areas and clinical studios. Core working hours for staff and service are 8.45am to 5.00pm, Monday to Thursday; 8.45am to 4.30pm Friday.[8]

Pharmacy - The Pharmacy department within the new South Glasgow Hospital will deliver services currently provided from the departments at the Southern General Hospital, Victoria Infirmary, Western Infirmary and Royal Hospital for Sick Children. The main department is located on the ground floor, with the aseptic unit on the second floor. Pharmacy accommodation for the Making the Most of Your Medicines (MMyM) will be provided from rooms within the two hospitals – one is located on each of the levels from 3 to 11 (adult) and 1 to 3 (children). The pharmacy service to the Acute Receiving Unit will be based on the ARU service model at Glasgow Royal Infirmary. The Aseptic unit will provide, a Central Intravenous Additive Service to NICU and

[7] Adult Imaging Operational Policy Draft 7 June 2013
[8] MIS_OperationalPolicy_Draft 2 Feb 2013

PICU, cytotoxic chemotherapy for children and adults (national BMT), and parenteral nutrition for adults, children and neonates. Application for an MHRA specials license for CIVAS products is being considered.[9]

Clinical Pharmacists will be based in the ARU and admitting wards/specialties, to carry out a medication history and contribute to the medicines reconciliation process, with the aim of triaging patients within 24 hours of admission (see below). Junior pharmacists will triage under supervision. They will screen discharge prescriptions, follow up individual patients according to the triage process, and be available for queries/advice on clinical issues via a referral system. A team of pharmacists will provide a patient focused service across a number of wards within a directorate and according to the triage and referral framework. The aim is to ensure that, if required, patients are seen by the most appropriate specialist pharmacist, regardless of their location in the hospital. Operational issues and ward based issues such as safe and secure handling of medicines that have previously been referred to the ward pharmacist, will be addressed by a dedicated pharmacy MMyMed technical team, who will refer to a pharmacist only if clinical advice is required. For detailed duties of each band, please refer to the PPSU Clinical Pharmacy Career Framework document. Clinical pharmacist activity within clinics will continue as before.

The current core pharmacy service is usually 8.30am - 5pm, Monday to Friday, with a limited service in some hospitals out with these hours. It is planned that clinical pharmacists will be physically present in the nSGH ARU 7 days a week with extended hours on weekdays - hours yet to be determined. Due to the number of specialties with direct admissions, it is unlikely that this service can extend beyond ARU, without additional resource.

Further detail on Pharmacy roles is contained within appendix 2.

Outpatients - The new South Glasgow Hospital (nSGH) features both Generic Outpatient and specialty dedicated departments across the ground, first and second floors. The core working hours of the Department will be 8.00 until 18.00[10].

The following specialty outpatient services will be catered for:

Audiology
Anticoagulation Therapy
Orthotics – co located on Ground floor
Cardiology
Dermatology
Diabetes
Ear Nose and Throat (ENT)
Gastroenterology
General Surgery
Ophthalmology
Orthopedics
Pain
Pre-Operative Assessment Clinic
Psychology
Respiratory
Rheumatology
Dept. of Medicine for the Elderly
General Medicine

[9] NSG Operational Policy NSG Pharmacy V1, 5 November 2013
[10] OPD Operational Policy, Version 10, 9 January 2014

1st Floor

The 1st Floor is mainly Critical Care and Diagnostic Imaging.

Departments/Areas

The Critical Care Facility on the 2nd floor is a 79-bedded flexible department providing accommodation at Level 2 (High Dependency) and Level 3 (Intensive Care)[11].

Surgical and Medical High Dependency Units – The assumed Nurse to Bed Ratio applied is 3.2 with a skill-mix of 80% registered, 20% unregistered at 100% occupancy. Current assumed bed numbers are 10 Medical HDU and 29 Surgical HDU.

Intensive Care Unit – The assumed Nurse to Bed Ratio applied is 6.24 with a skill-mix of 85% registered, 15% unregistered at 100% occupancy. This unit is currently planned to have 20 beds.

Coronary Care Unit – The assumed Nurse to Bed Ratio applied is 2.82 with a skill-mix of 80% registered, 20% unregistered at 100% occupancy. This assumes a bed profile of 20 beds.

Workforce Requirements for Critical Care

	Coronary Care Unit	Surgical HDU	Medical HDU	ICU	Total
Band 7	2.64	3.00	1.00	2.00	8.64
Band 6	10.52	4.00	6.60	12.00	33.12
Band 5	28.93	59.56	16.72	87.09	192.30
Band 3	10.52	4.99	2.60	0.00	18.11
Band 2	2.64	11.65	3.48	11.23	29.00
Total	**55.25**	**83.20**	**30.40**	**112.32**	**281.17**

Acute Stroke Unit – A final model for Acute Stroke including Hyper Acute Stroke will be developed within this baseline plan.

[11] Critical Care Operational Policy V2, dated 4th February 2013

Medical Day Unit – The unit will have 25 bays/rooms and assumed operating hours of 0830-1700 Monday-Saturday[12]

Nursing Workforce Requirements:

Band 7	1
Band 6	0.62
Band 5	5.15
Band 2	3.02
Total	**9.79**

9.79 wte will allow for 22 beds to be staffed Monday to Friday and 10 beds to be staffed Saturday and Sunday (band 6 will be on at weekends only)

Pre-Op Assessment (POA) – POA will be a Monday to Friday service operating between 0800 and 1800. POA is a nurse led service. It is a clinical investigation where patients are assessed against researched criteria to ensure the optimal outcome for anaesthesia and surgery. Allied Health Professionals (AHPs) such as OTs support the Orthopaedic service to provide pre operative information & support to patients.[13]

Nuclear Medicine - The Adult and Paediatric Nuclear Medicine services will be present in the nSGH/NCH. They provide a range of over 70 radionuclide based diagnostic tests and therapies. The tests cover all the main body systems (brain, bones, blood, heart, liver, kidneys, endocrine and gastrointestinal) and their associated diseases. DXA services are provided for South Glasgow. DXA scans are performed for Mineral Metabolism, Fracture Liaison, Direct Access (DADS) & Secondary Care. The opening hours are currently planned to 0830-1700, Monday to Friday for Adult and 0800-1630, Monday to Friday for Children's[14].

Restaurant – The restaurant will be open Monday to Sunday, 0800-1900 [15]. It is estimated that around 1,000 people will use the restaurant each day.

[12] Medical Day Unit Operational Policy Draft, dated 4 January 2014
[13] Pre-op Assessment Operational Policy Version 7, Dated 8 July 2013
[14] Operational Policy Adult Paed NM V1 2A, dated 27 May 2013
[15] New SGH Retail Operating Policy, August 2013, Draft 3

2nd Floor

The majority of the 2nd floor is occupied by Theatres.

Departments/Areas

Theatres - **Operating Rooms (OR)** - There are 20 ORs - each is associated with an Anaesthetic Room, a Scrub Room and a Utility room; there is a shared Preparation Room and a shared Exit Bay between each theatre. There are 12 Standard ORs, 8 Laminar Flow ORs and two Hybrid ORs.

The 20 theatres will provide emergency and elective surgical services for the following specialties Orthopaedics, General Surgery, Urology, Vascular, Renal and ENT. In addition the Surgery & Anaesthetics Directorate will manage the two Gynaecology theatres in the existing Maternity building[16].

Theatres – Reception/Recovery - There are 41 reception/recovery bed spaces[17]

Same-day Admission Unit (SDAU) – This unit will facilitate admission of fasted elective admissions from all surgical specialities in the new South Glasgow Hospital. The patients will be admitted on the day of surgery to the SDAU, prepared for and transferred to theatre from the Unit and admitted to an elective inpatient ward post operatively. The unit will not receive post operative patients for discharge. All surgical return patients will be admitted through Acute Assessment Unit (AAU). The SDAU will be staffed by reception staff from 0645. The SDAU will open at 0715 and close at 1600, and will be closed at weekends and Public Holidays. Nursing, Ancillary and Portering staff will start at 0715. These hours may change once the unit is operational depending on service requirements so flexibility in working hours will be required by staff[18].

Medical Physics – The Department of Clinical Physics and Bio-engineering (DCPB) provides the Medical Equipment Management Service for NHS Greater Glasgow & Clyde via Management of Medical Equipment Services. Clinical Physics staff, medical equipment services, will directly maintain the majority of medical equipment in the NSGAH. Some specialist equipment will be maintained by

[16] Theatre Complex NSB Operational Policy Version 10, dated 11 October 2013
[17] Theatre Complex NSB Operational Policy Version 10, dated 11 October 2013
[18] SDAU Operational Policy Version 5, dated 27 February 2013

external service contracts. These contracts will be administered and monitored by physics staff. Users of the Physics service arrange for equipment to be uplifted or taken to one of the laboratory areas, however, a significant proportion of the work takes place within clinical areas e.g. theatres, clinics, endoscopy, critical care etc. This will be as a result of user requested repair, service requests or planned maintenance (PM). This mainly relates to bulky items or equipment fixed in their location.

With the merger of teams from three acute sites, Southern General hospital and Victoria and Western Infirmaries, this will entail maintenance of an asset base of approx 15,500 active items of medical equipment. Over the last financial year this resulted in these teams performing just under 13,000 jobs. The operating hours are proposed to be: Main Department, 0845–1700 Monday to Friday. Paediatric and Adult Medical Device Libraries 0750-2000 Monday to Friday, 0800-1200 Saturday and 0800-1400 on Public Holidays (excluding Christmas and New Year's Day). Adult Renal Dialysis Workshop 0800-1700 Monday to Friday with a formal emergency on-call rota. Paediatric Renal operates 0800-1600 Monday to Friday with no formal on-call rota. These may be subject to review.[19]

There are no significant changes anticipated within the Medical Physics workforce.

[19] Operational Policy Clinical Physics (MEM) May 2013 Changes Accepted

3rd Floor

The 3rd floor of the hospital contains no patient areas. It is mainly occupied by staff changing/hotel services and hospital plant.

Departments/Areas

Staff changing, hotel services, staff accommodation.

Health Records – The Health Records service plans to operate between 0800 and 2000 Monday to Friday and 0900-1200 on Saturday. A 24/7 records service will be provided to the Emergency Department.[20]

[20] Health Records Operational Policy New SGH, Dated 28 November 2013

4th Floor

The 4th Floor is the first inpatient-ward area floor of the stack. It contains Renal and Haemato-oncology wards.

Departments/Areas

Haemato-oncology and Renal wards. Nurse to Bed Ratios of 1.38 for Haemato-oncology, 2.04 for Renal, taking account of Renal Transplant at 3.02 and Renal Surgery at 1.26 and 1.40 for Nephrology. The average skill-mix applied to all 99 beds is 78/22 – this takes account of higher skill-mix within Nephrology (80/20), Renal (80/20) and 70/30 applied to Haemato-oncology.

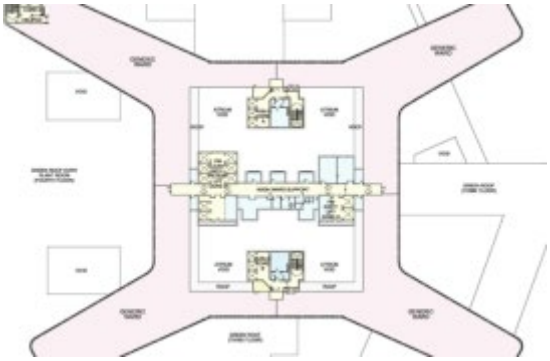
Nursing Workforce Requirements

Registered Nursing: 110.0 WTE
Unregistered Nursing: 32.5 WTE
Total: 142.5 WTET

Two wards currently within the Beatson, B8 and B9 will move onto this floor. In total 38 staff will move with these two wards.

5th Floor

The fifth floor is a generic inpatient ward area with 112 beds. It is currently assumed these will be medicine beds.



Departments/Areas

All wards currently assumed to be Medicine. An assumed Nurse to Bed Ratio of 1.17 and a skill-mix of 65% registered, 35% unregistered has been applied at an assumed occupancy level of 95%.

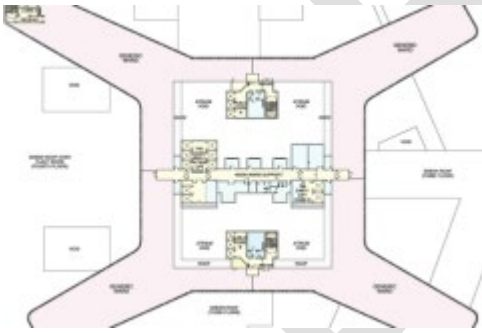
5th Floor – Nursing Workforce Requirements

Registered Nursing: 80.92 WTE
Unregistered Nursing: 43.57 WTE
Total: 124.49 WTE

It is anticipated that medical specialties will be confirmed by end of August, 2014.

6th Floor

The sixth floor is a generic inpatient ward area with 111 beds. It is currently assumed these will be medicine beds.



Departments/Areas

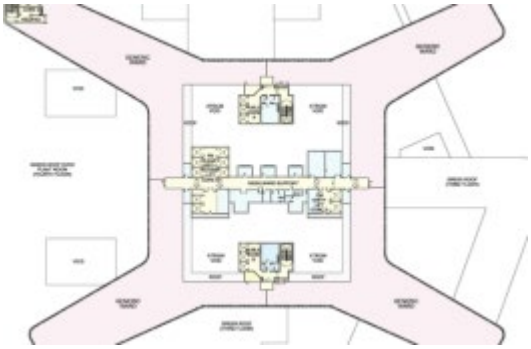
All wards currently assumed to be Medicine. An assumed Nurse to Bed Ratio of 1.17 and a skill-mix of 65% registered, 35% unregistered has been applied.

6th Floor – Nursing Workforce Requirements

Registered Nursing: 80.2 WTE
Unregistered Nursing: 43.2 WTE
Total: 123.4 WTE

7th Floor

The seventh floor is a generic inpatient ward area with 112 beds. It is currently assumed these will be medicine beds.



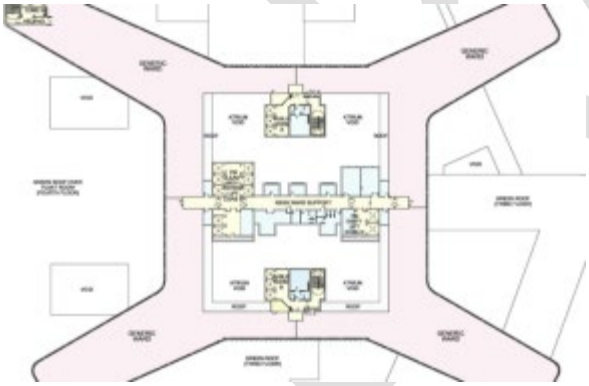
All wards currently assumed to be Medicine. An assumed Nurse to Bed Ratio of 1.17 and a skill-mix of 65% registered and 35% unregistered has been applied.

7th Floor – Nursing Workforce Requirements

Registered Nursing: 80.92 WTE
Unregistered Nursing: 43.57 WTE
Total: 124.49 WTE

8th Floor

The eighth floor is a generic inpatient ward area with 112 beds. It is currently assumed 28 of these will be rehabilitation and assessment beds. The remainder will be General Medicine.



An assumed Nurse to Bed Ratio of 1.17 for medical wards and 1.16 for rehabilitation wards and a skill-mix of 65% registered and 35% unregistered has been applied.

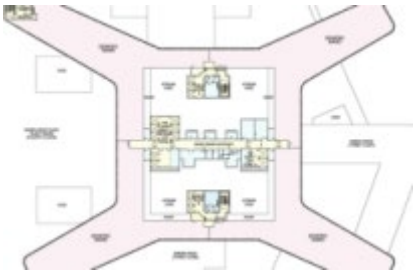
8th Floor – Nursing Workforce Requirements

Medical Registered Nursing: 60.69 WTE
Medical Unregistered Nursing: 32.68 WTE
Medical Total: 93.37 WTE

Rehabilitation Reg. Nursing: 20.1 WTE
Rehabilitation Unreg. Nursing:10.8 WTE
Rehabilitation Total: 30.9 WTE

9th Floor

The ninth floor is a generic inpatient ward area with 112 beds. These beds are currently identified to be 16 General Medicine and the remainder, 96, are Surgical.



Departments/Areas

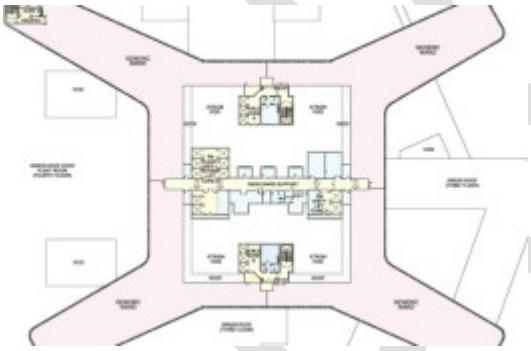
43 beds on this floor are currently identified as Vascular, 53 are General Surgery and 16 General Medicine. Vascular requirements have been calculated at 100% occupancy. General Surgery at 85% and General Medicine at 95%. 4 Vascular beds have been calculated at Acute Receiving level (1.53 NtBR. 75/25 skill-mix) to account for direct admission of patients.

9th Floor –Nursing Workforce Requirements

	General Surgery & Vascular	General Medicine	Total
Band 7	3.50	0.5	4.00
Band 6	7.00	1	8.00
Band 5	63.20	10.06	73.26
Band 3	3.87	0	3.87
Band 2	34.61	6.22	40.83
Total	**112.18**	**17.78**	**129.96**

10th Floor

The tenth floor is a generic inpatient ward area with 112 beds.



Departments/Areas

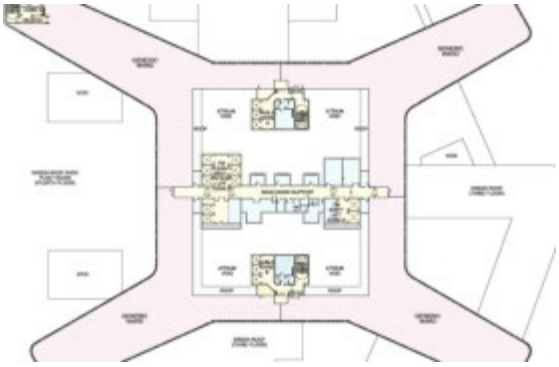
All wards currently assumed to be Orthopaedic Trauma and Elective. 3 of the 4 wards are assumed as Trauma for workforce planning purposes, and have applied a nurse ratio of 1.38, 89% occupancy and 67.5/22.5 skill-mix. This includes an uplift to account for these wards accepting direct admission of patients. Elective is planned at 1.10 NtBR, 65/35 skill-mix.

10th Floor – Surgery Nursing Workforce Requirements

Band 7	4.0
Band 6	8.0
Band 5	74.7
Band 3	4.3
Band 2	38.4
Total	**129.3**

11th Floor

The tenth floor is a generic inpatient ward area with 110 beds and 2 ENT treatment rooms.



Departments/Areas

This floor is currently planned to contain 36 Urology beds, 29 ENT beds (in addition to two treatment rooms) and 45 General Surgery beds.

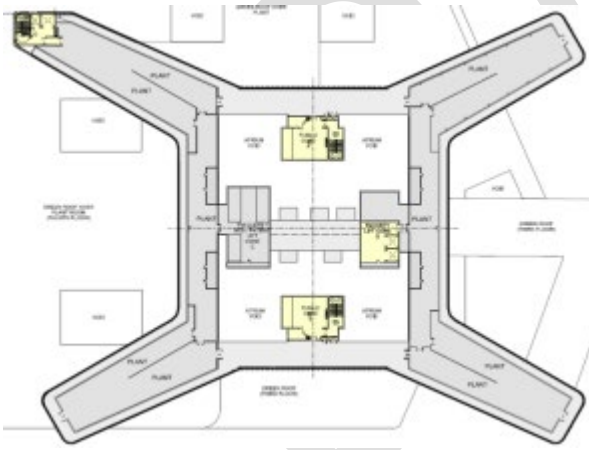
7 ENT beds have been assumed at Acute Receiving level as they will accept direct admission of patients. 8 Urology beds are similarly calculated at Acute Receiving level as they too will accept direct admission of patients with diagnosed urology. The remaining Urology beds and General Surgery beds are planned at 1.26 NtBR, 65/35 skill-mix.

11th Floor – Surgery Nursing Workforce Requirements

Band 7	Band 6	Band 5	Band 3	Band 2	**Total**
4.0	8.0	70.9	4.2	37.1	**124.2**

12th Floor

The twelfth floor contains the hospital plant.



Departments/Areas

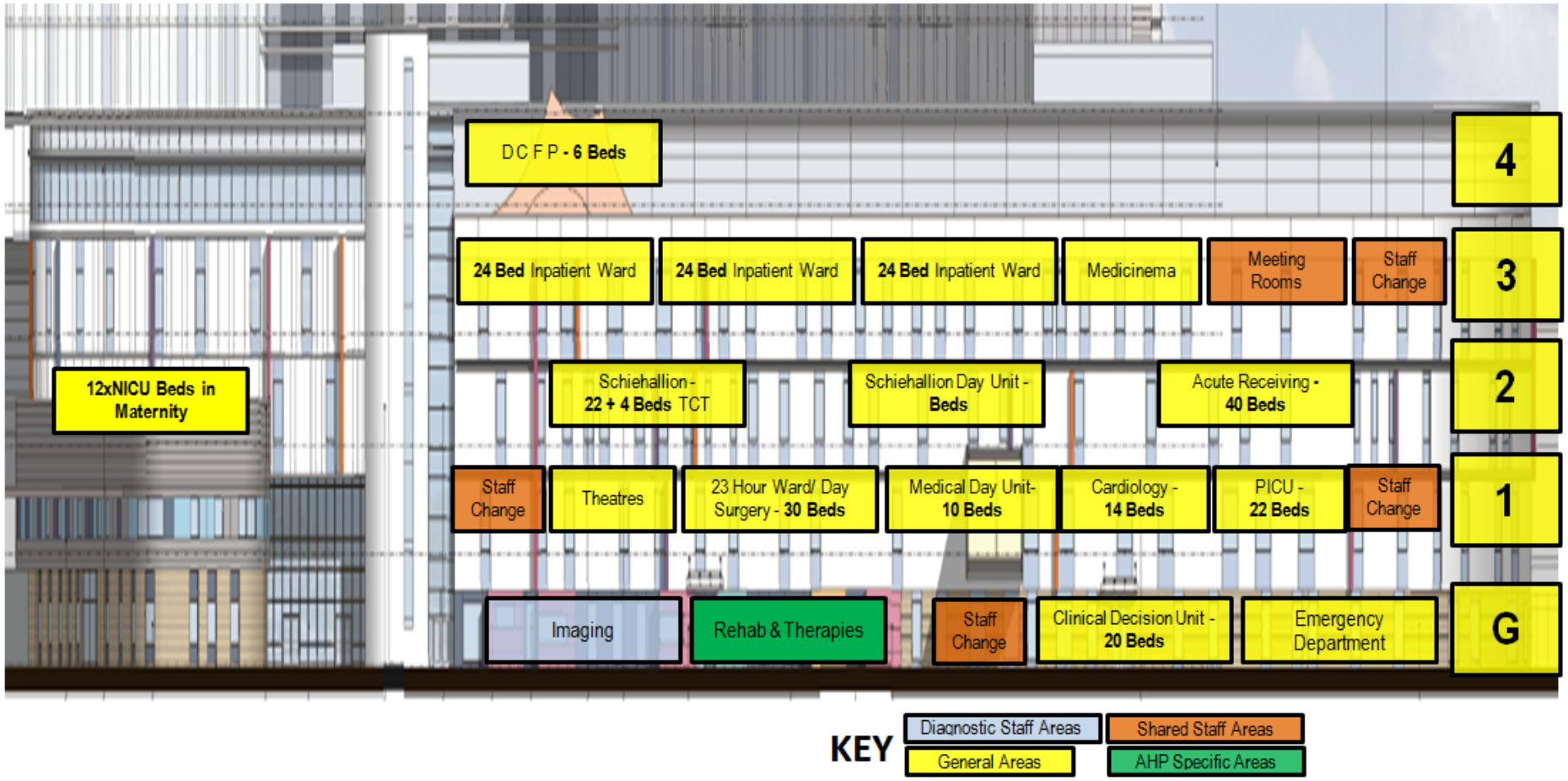
There are no patient areas on this floor. It is occupied only by essential Hospital Plant.

Helipad

The roof of the nSGH floor contains the helipad. This will be supported by a trained team of Facilities staff to support the landing of helicopters and transferring of patients to the Emergency Department.

Section 3: new South Glasgow Children's Hospital

3.0 Overview of new South Glasgow Children's Hospital



3.1 Current Staff

3.1.1 Yorkhill

There are currently 1,867 Acute Services staff located at Yorkhill.

Directorate / Job Family	Administrative Services	Allied Health Profession	Snr. Managers	Healthcare Sciences	Medical and Dental	Medical and Dental Support	Nursing and Midwifery	Other Therapeutic	Personal and Social Care	Support Services	Total
Diagnostic Services	8	36		36	7		2				**89**
Facilities	10									195	**205**
HI&T	30										**30**
Pharmacy	2							33			**35**
Rehabilitation & Assessment Services	1	40									**41**
Women & Children's	139	33	4	67	258	8	991	20	1	4	**1,525**
RHSC Total	**190**	**109**	**4**	**103**	**265**	**8**	**993**	**53**	**1**	**199**	**1,925**

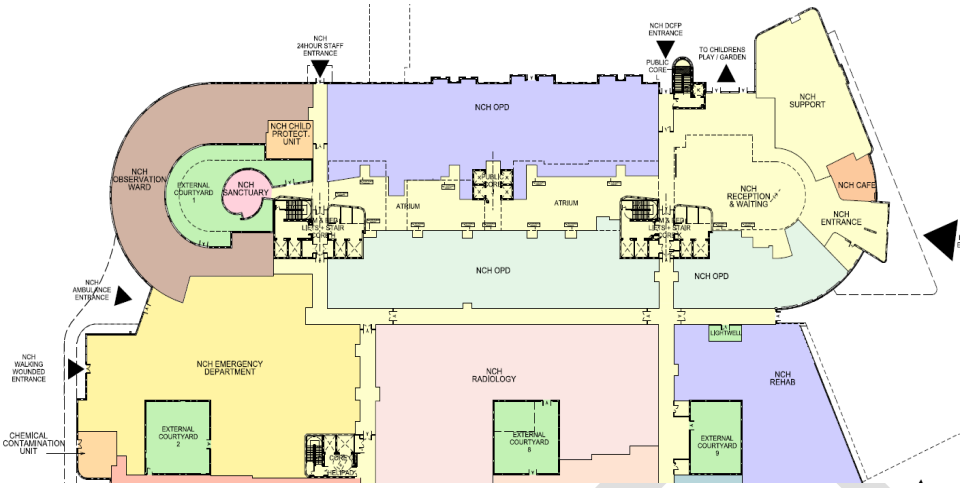
The table below provides a list of the departments within Yorkhill which are currently assumed to be moving into the nSGHs and their associated floor(s), where applicable.

Directorate	Department/Area/Ward	Headcount	Assumed Floor
Diagnostics	Rhsc-Clin Engineering Physics	2	nSGH - 2nd Floor
Diagnostics	Rhsc-Equipment Physics	11	nSGH - 2nd Floor
Diagnostics	Rhsc-Haematology Lab	19	nSGH
Diagnostics	Rhsc-Radiography Main Dept	50	nSGH - Ground/1st Floors
Diagnostics	Rhsc-Radiography Cardiology	2	nSGH - Ground/1st Floors
Facilities	Rhsc-Domestic Services	88	Across South Campus
Facilities	Rhsc-Estates	24	Across South Campus
Facilities	Rhsc-Patient Catering	30	Across South Campus
Facilities	Rhsc-Portering & Transport	34	Across South Campus
Facilities	Rhsc-Site Management	9	nSGH - Laboratory
Facilities	Rhsc-Stores	9	nSGH - 3rd Floor
Facilities	Rhsc-Tssu Satellite Store	2	Across South Campus
Facilities	Rhsc-Dining Room	13	nSGH - 1st Floor
RAD	Rhsc-Dietetics	35	nSGH-Children's
RAD	Rhsc-Special Feeds	6	nSGH-Children's
Wm&Chd.	Rhsc Epilepsy Genetics	1	nSGH
Wm&Chd.	Rhsc Paeds Spec Nurse Ln2	42	nSGH-Children's
Wm&Chd.	Rhsc- Paeds-Lead Nurses	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds- Lead Nurses	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds- Rheumatology	4	nSGH-Children's
Wm&Chd.	Rhsc-Paeds Wd7a	32	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-A&E	74	nSGH - Children's - Ground Floor
Wm&Chd.	Rhsc-Paeds-A&E Medical Staff	26	nSGH - Children's - Ground Floor
Wm&Chd.	Rhsc-Paeds-Age Approp Care	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Anaesthesia	30	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Audiology	18	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Bereavement Centre	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Cardiac Surgery	6	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Cardio Med Staff	9	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Cardiology Dept	20	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Cent Vent Service	60	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Clin Nurse Educator	4	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Clin Nurse Educ-Ln3	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Csm (Medical)	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Cystic Fibrosis	5	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Day Surgery	23	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Dental Service	9	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Dermatology	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Diabetes	7	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Donor Breast Milk	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-E.N.T.	5	nSGH-Children's

Wm&Chd.	Rhsc-Paeds-Ecmo (Wd2b)	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Eeg	4	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Fraser Of Allander	6	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Gastroenterology	5	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Gen Admin (Surg)	25	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-General Admin (Med)	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-General Medicine	46	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-General Surgery	31	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-Hearing Screen Ser	19	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-High Vent 3 (Mam)	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Hospital At Night	4	nSGH - Children's - 2nd Floor
Wm&Chd.	Rhsc-Paeds-Infectious Diseases	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-In-Pat Admin (Surg)	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Lung Function	12	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Mcn Gcs Data Proj	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Medical Secretaries	41	nSGH - Office Block
Wm&Chd.	Rhsc-Paeds-Metabolic Medicine	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Neurology	6	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Nicu	132	NICU within SGH Maternity
Wm&Chd.	Rhsc-Paeds-Nsd Mcn - Salaries	14	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Nsd Mcn Gastro/Resp	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Nurse Practitioner	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Ophthalmology	3	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Orthopaedics	12	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Orthoptists	5	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Orthotic Unit	9	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Outpatient Dept	22	nSGH - Children's - Ground Floor
Wm&Chd.	Rhsc-Paeds-Pain Control	2	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Physiotherapy	24	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Picu	177	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Picu Off The Floor	4	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Plaster Room Area E	5	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Play Service	13	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Schiehallion Dcu	8	nSGH - Children's - 2nd Floor
Wm&Chd.	Rhsc-Paeds-Spec Nurse-Ln4	14	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Specialist Nurses	50	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Surg Csm Team	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Theatres	101	nSGH - Children's - 1st Floor
Wm&Chd.	Rhsc-Paeds-Wd1a	81	nSGH - Children's - 2nd Floor
Wm&Chd.	Rhsc-Paeds-Wd1c	10	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Wd3a	37	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-Wd4a	37	nSGH - Children's - 2nd Floor
Wm&Chd.	Rhsc-Paeds-Wd4b	37	nSGH - Children's - 2nd Floor
Wm&Chd.	Rhsc-Paeds-Wd5a	45	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-Wd6a	40	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-Wd7b	21	nSGH - Children's - 3rd Floor
Wm&Chd.	Rhsc-Paeds-Young People Serv	1	nSGH-Children's
Wm&Chd.	W&C-D Admin Management Team	13	nSGH-Children's
Wm&Chd.	W&C-D Admin-Clyde Management	1	nSGH-Children's
Wm&Chd.	W&C-Obs-Clyde D'Rate Nurse Mgt	2	nSGH-Children's
Wm&Chd.	Y'Hill Bereavement Sup.Servs.	1	nSGH-Children's
Wm&Chd.	Rhsc Paeds Stoma Care	1	nSGH-Children's
Wm&Chd.	Rhsc-Paeds-Nsd-Cobis	1	nSGH-Children's

3.2 new South Glasgow Children's Hospital – Floor by Floor

Ground Floor



Departments/Areas

Emergency Department - The NCH ED will see patients up to their 16th birthday. The NCH ED will provide a Consultant based service for 16 hours a day / 7 days a week and be set up to cope with undifferentiated paediatric clinical presentations across all specialties, from the life threatening to the self-limiting. Patients will be managed across several distinct clinical spaces including a resuscitation room, Majors / Minors assessment areas and an ED Clinical Decision Unit (CDU) / Observation Area. An average attendance of c. 60,000-70,000 patients per year is anticipated[21]. This includes an anticipated increase in attendances related to the extension of applicable age range for the Children's Hospital to include all children up to their 16th birthday.

. Additionally, the Short-stay assessment beds will increase from 10 currently to 20 within the New Children's Hospital.

The current workforce plan staffing numbers are 59.56 WTE which requires increasing to 79.56 WTE, an increase of 20.0WTE.

Outpatients – The core working hours of the Department are Monday to Friday 08:30 – 17:30. Clinics have the potential to run out with these hours, e.g. early evening/weekends/public holidays. The following specialty outpatient services will be provided for in the NCH[22]:

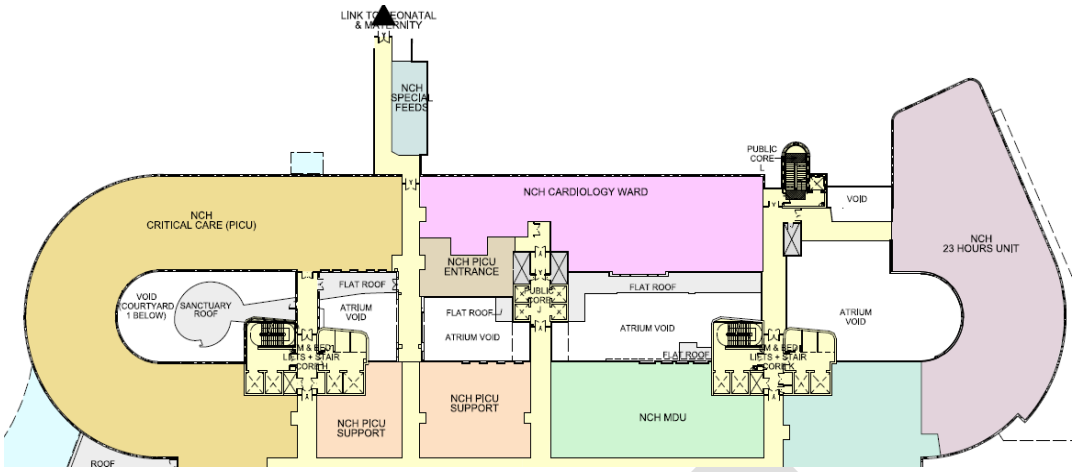
Outpatient Department workload is anticipated to increase based upon increased age range of patients. The increase in workforce associated with this is 7.5WTE, over the current 19.85wte**.**

[21] NCH ED Operational Policy v2, dated 17th January 2014
[22] Outpatient Department Operational Policy v2.1, dated November, 2013

Medical Specialties	Surgical Specialties
- Allergy - Dermatology - Diabetes - Endocrinology - Gastro-enterology - Haem/Onc - Immunology/ID - Medical Paeds - Metabolic - Neonatology - Nephrology - Neurology - Psychology/Psychiatry - Respiratory - Rheumatology	- Audiology - Cardiology - Dental - ENT - Maxillo-facial - Neurosurgery - Ophthalmology - Orthopaedics - Pain - Plastics - Surgical Paeds - Urology

Directorates Affected: Women and Children's only

1st Floor



Departments/Areas

Theatres – It is planned that an elective theatre runs for 10 sessions per week for 42 weeks of the year. The aim is to have 85% theatre utilisation. This takes into account consultant leave. Elective work will take place Monday to Friday. Theatres will start at 08.45hrs with the surgical brief aiming to have the first patient into the anaesthetic room between 08.45 and 09.00hrs. The end of the elective day will be at 17.00hrs with the last patient leaving theatres and entering recovery. Each theatre will have 4 trained members of nursing/ODP staff allocated to it: 1 scrub nurse, 2 circulating nurses and an Anaesthetic nurse. Nursing staff will start in theatres at 08.00hrs. Currently, a proportion of nursing staff work till 17.00hrs and the remainder finish at 18.00hrs. Recovery is staffed from 08.00 to 21.00hrs Monday to Friday. Recovery is provided at the weekends from 09.00hrs to 17.00hrs. The working week may need to change in order to meet waiting time targets and address capacity plan issues within theatres. Emergency Theatre runs 24 hours a day – 7 days a week[23].

There are currently 9 Theatres within Yorkhill; this will increase to 11 within the New Children's Hospital. There is a net increase of 14 sessions and a daily emergency theatre which would require 10.5WTE registered/3WTE non-registered.

The number of recovery beds will also increase disproportionately from 8 to 21, although it is anticipated that these will have an average turnover of 16 beds per day and will therefore be staffed to this level.

The associated increase in nursing will see a rise from a current of 21.50 WTE to 36.50 WTE (13WTE registered/2WTE non-registered).

With an increase in staffing, the NCH recovery staffing model still remains less than the equivalent in the adult sector.

Therefore the total increase in requirement for Theatres is 23.5 WTE registered and 5 WTE non-registered. The current WTE budget for Theatres is 95.26 WTE.

[23] Theatres OP v1, dated February 2013

23 hour day ward/ Day Surgery - The elective surgery unit (ESU) is made up of 22 beds (3 four-bed bays, 6 single rooms for elective surgery and 4 single rooms for sleep studies) and 8 trolley spaces for day cases, plus supporting facilities. It is currently anticipated that the ESU will open 5.5 days a week, Monday morning to Saturday lunchtime. The day surgery part of the ESU will operate from 0730 to 2000, but the rest of the ESU will function 24 hours a day. The sleep study service will operate Monday-Wednesday nights, 1800-0930. Outwith these times, the sleep study beds will be available for use for elective surgical admissions on a flexible basis. These assumptions are based on theatres working as at present with elective lists from 0845 to 1700, Monday to Friday[24].

Paediatric Intensive Care Unit and Cardiology- The Paediatric Critical Care service at the Royal Hospital for Sick Children provides tertiary level care for the children of Scotland, admitting over 1100 per patients per annum with over 5800 bed days. The Scottish Paediatric Retrieval Service aspect of ScotSTAR is staffed from within the Critical Care medical and nursing staff pool with extra cover provided by colleagues in the Royal Hospital for Sick Children, Edinburgh. The Cardiac Service is home to the Scottish Interventional Cardiology and Cardiac Surgical Services. Six paediatric cardiologists in Glasgow and one in Edinburgh provide the cardiac workload from all over Scotland for three paediatric cardiac surgeons all based in Glasgow[25]

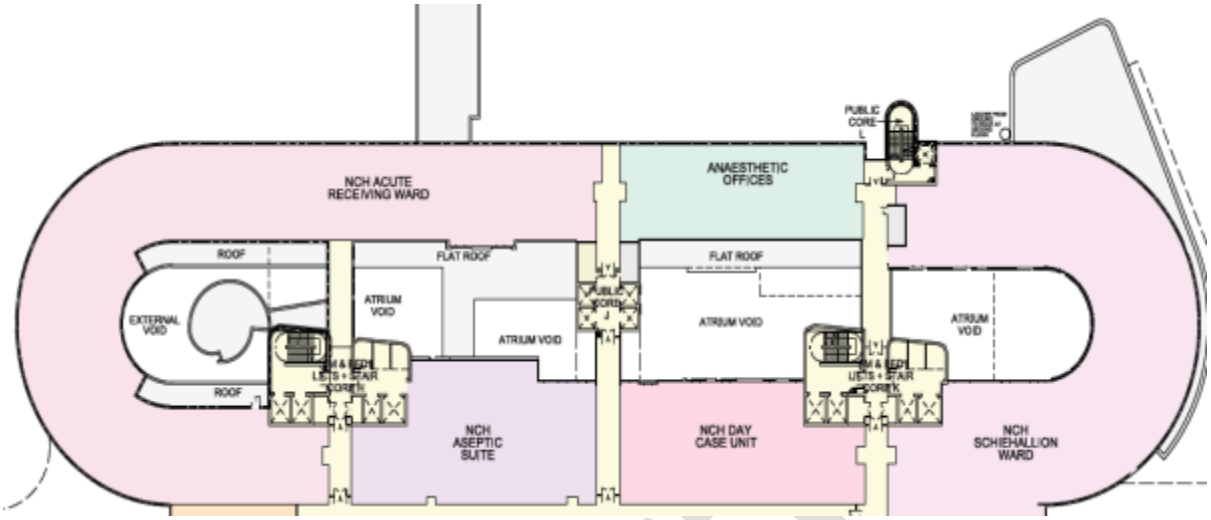
PICU within Yorkhill is currently combined unit of 17 PICU beds and 6 High Dependency. Within the new Children's Hospital this will change to 22 beds all at PICU-level. The recommended NtBR for PICU beds is 7.01 at 100% occupancy, driving a requirement of 154.22WTE. After the management and supervisory support is added in, the total requirement is 154.62WTE, and a skill-mix of 90/10 is required.

The current budget available within PICU/HDU at Yorkhill is 126.21WTE – giving a shortfall of 28.41WTE.

Paediatric Intensive Care is a nationally-commissioned service. NHSGGC currently receives funding for 17 PICU beds; the above scenario is predicated upon the full 22 PICU beds being funded by NSD. This increase in staffing is therefore not incorporated in to the final totals in the summary schedule.

[24] DSU and 23 hour ward OP v1, dated 26th February, 2013
[25] Critical Care and Cardiac Services OP v7.1, dated 25th November 2013

2nd Floor



Departments/Areas

Schiehallion including TCT - Oncology, haematology and immunology patients will be accommodated in the designated Schiehallion unit on the second floor (22 beds, 8 of which are designated as negative pressure cubicles). In view of the complexity and range of medical specialties accommodated in this clinical area multiple groups of medical and nursing staff will be using this area. The numbers of medical & surgical specialty trainees are currently in flux nationally and careful consideration will need to be given to the appointment of staff specialists/consultants and training and employment of advanced nurse practitioners (particularly HaN). During working hours each of the 3 ward areas will require a ward doctor (FY) and each specialty team will review and be responsible for the care of patients admitted under their care. The hospital at night (HaN) team will be required to provide medical staff to these areas with access to advice and assistance from appropriate specialists in accordance with ongoing discussions[26].

There are currently 22 beds within Schiehallion, Ward 1A within Yorkhill. This level is maintained within the New Children's Hospital. Located adjacent to the proposed Schiehallion ward are 4 beds for Teenage Cancer Trust and 4 beds for day-case Oncology. These would all be staffed by the same cohort of staffing associated with Schiehallion.

Acute Receiving[27] – A 40-bedded unit, comprising mainly cubicle spaces with two 4-bedded areas. Proposed to be a 72-hour ward. Training of staff members in specialty care and the support of CNS staff will be necessary.

The Acute Receiving beds within the New Children's Hospital will be a combination of the existing Acute Receiving wards of 4A and 4B within Yorkhill - currently a total of 40 beds.

The average NtBR for these wards is currently 1.46WTE (1.40WTE and 1.52WTE). Applying this to the new unit at 80% occupancy would result in a requirement of 46.72WTE. To this the management and supervisory day support is added bringing to total receiving requirement to

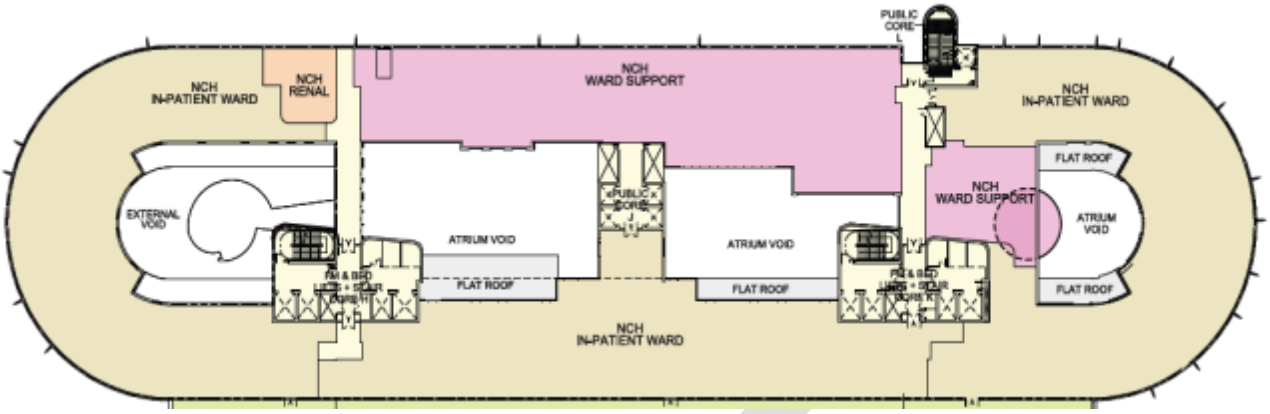
Medical staffing for Acute Receiving
There will be combined medical and surgical workforce within ARU. The medical team currently has 2x GPST2 (FY2 equivalents) and 2x ST2 in paediatrics who support the general team. It is expected

[26] Scheduled and Specialist Care Schiehallion OP v4, dated 16th April 2013
[27] Unscheduled Care-future Operational Policy version 2, dated 4 October 2013

that this will remain the case. In addition 1-2 surgical FY trainees should be based on the ward and there should be cover from surgical ST training grades. The general medical team also has an ST2 trainee based within the medical assessment unit in ED. It is likely that the role of this person will change and they may provide more of daytime on-call service which will straddle ED and ARU. Specialty teams will bring their own staff when reviewing patients.

Hospital at Night - Will continue to provide out of hours cover but it is anticipated that the medical consultant on-call will be based within the hospital throughout the evening, providing additional senior support. This will be dependent upon expansion of general paediatric consultant numbers and a change in the receiving system.

3rd Floor



Departments/Areas

Inpatient Wards – 3x 24 bedded ward areas.

Proposed breakdown of the 72 inpatient beds:

Inpatient Beds/Day Surgery		Inpatient Wards Beds	Change
Ward 7A (Med, Onc, Neuro & Neuro Surgery)	18	14	4 TCT
Ward 6A -Paeds - Urology / Nephrology/Renal	10	10	
Ward 5A (Cardiology/C.Surgery, Resp, Long Term Vent, Complex airways)	24	10	14 Cardiology
Wards 7B Rhsc-Paeds	12	8	4 Sleep Study to day-case
Ward 4B (Acute Surgical Receiving, surg paeds, burns, gastro >2yrs)	24	4	Acute Rec. Beds
Ward 4A Paeds (Acute Med Receiving Unit, Inf Diseases, CF, Emer Endo, Derm, Diabetes)	16	3	Acute Rec. Beds
Ward 3A (ENT, Eyes, MaxFax, Ortho, Dental cleft, gastro scopes, CF & Plastics)	24	8	16 Day case
Rhsc-Paeds-Schiehallion Dcu	Day Beds		
Rhsc-Paeds-Wd1c	Day Beds		
Rhsc-Paeds-Day Surgery	Day Beds		
Ward 1A - Schiehallion Oncology	22		
Critical Care			
Ward 2B/3B - NICU = 10 HDU, 16 ITU & 7 SCBU	33	9	24 beds to existing SGH Critical Care
PICU/HDU - 17 x ICU beds & 6 HDU	23	6	17 Beds to GRI
Existing SGH Critical Care	26		
Theatres			
Rhsc-Paeds-Theatres			
A&E			
Rhsc-Paeds-A&E			
TOTAL	232	72	

It is estimated that a NtBR of 1.39 WTE and an occupancy rate of 85% (skill mix 70/30) will be required for each of these wards. This allows 28.36 WTE per ward, 28.77 WTE after the management and supervisory support is factored in, a total of 86.31 WTE across the 3 ward areas.

4th Floor

Departments/Areas

Department of Child and Family Psychiatry - The National Child Psychiatry In Patient Unit is a national 7 day service that provides places for inpatients and day patients aged between 5 to 12 years (although there can be flexibility to admit slightly older depending on their developmental age) with severe and/or complex mental disorder, emotional and behavioural disorders. The unit also provides an outpatient consultation function (around 30 – 35 outpatient appointments each year) often leading to admission as in patient or day patient.

Anticipated activity:

	Referrals	*Admissions*	*Outreach Visits*	*Outpatient Contacts*	*Day Patient Attendancies*	*Inpatient OBDs*
Minimum	*30*	*10*	*15*	*10*	*240*	*1,150*
Maximum	*40*	*20*	*22*	*20*	*310*	*1,450*

The Ward will operate 24 hours a day, 7 days per week and 356 days per year

Multi Disciplinary Staff will be available Monday to Friday 9am to 5pm and nursing staff will cover the 24 hour period. The ward will be open 24 hours per day 365 days per year for In Patients. Day patients will attend between 9am and 5pm 7 days per week. Outpatient services will be available for patients from 9am to 5pm Monday to Friday[28].

[28] National Child Psychiatry Inpatient OP v1, dated January 2013

Section 4: Migration and Workforce Change

4.0 Migration and Workforce Change

4.1 Workforce Change

4.1.1 Summary Position

As described throughout the plan, the baseline is concluded with some areas now focussing more on developments to support changes in working practices.

4.1.2 Nursing and Midwifery

Based on the agreed workforce planning assumptions a surplus of Band 7 Senior Charge Nurses associated with the consolidation of sites and economies of scale from closing smaller wards and moving to larger 28-bedded wards within the nSGH has been identified.

A shortfall of Emergency Nurse Practitioners is expected with the development of the Minor Injury Units at Gartnavel General Hospital and the new South Glasgow Hospital and there is an expected increase in activity at the New Victoria Ambulatory Care Hospital.

With the implementation of the recommended Nurse to Bed Ratios and Skill-mix there is a surplus of Nursing staff particularly within the unregistered nursing workforce (bands 2-4).

Service Change	Senior Charge Nurses	Registered Nursing	Unregistered Nursing	Total
Glasgow Bed Reduction	-5	-101.9	-66.9	-173.8
New South Glasgow Hospitals	-12.55	71.5	-77.1	-18.2
Small Wards Tool Application	2	6.9	5.7	14.6
Paediatrics (Includes 1 SCN)	-1	47.8	13.8	60.6
GRI - Additional 10k attendances at ED, +10 Acute Assessment Beds (12hrs/day) and 2 additional Medical HDU beds	0	17.0	5.6	22.6
Consolidation of Emergency Depts and Development of New Minor Injury Units at NSGH and Gartnavel	0	-21.5	-5.2	-26.7
Reduction in Senior Charge Nurses	0	-16.1	0.0	-16.1
Clinical-Coordinators (out-of-hours)	0	-2.0	0.0	-2.0
Net-effect	**-16.55**	**1.7**	**-124.2**	**-139.1**

Work is underway to review vacancies and bank usage to minimise any loss of posts.

4.1.3 Medical Staffing

Laboratories

With the reconfiguration complete for the new South Glasgow Hospital laboratories and the new Lister Building at the GRI there is expected to be minimal change in laboratory services caused by the new South Glasgow Hospitals opening.

Radiology (+8 Consultants)

Radiology is seeing an increase in activity which is resulting in a challenge to maintain reporting times. In order to do this there are a large number of non-contracted EPAs being worked. The Directorate would like to introduce new ways of working which include extended working days from 8am-8pm. With the number of non contracted EPAs being required this equates to a request for 8 new Consultant posts. In addition to these 8 new posts it is expected 1 new paediatric radiologist will be required and 1 new intervention radiologist. It is potentially possible that reporting radiographers might be used instead of these consultants. A business case has been prepared by the Director for Division and Board discussion.

Emergency Medicine – No change

Extended working days (08:00-00:00) are already implemented across the emergency medicine sites and at the moment there is no further expansion anticipated in this. The Directorate have still to finalise whether there will be 24hr cover in the new South Glasgow Hospital and this is being dealt with separately. If there were further retirements (potential of three) in the emergency medicine they would consider replacing with middle grade doctors i.e. speciality doctor grade. There are well documented issues with trying to recruit to this grade.

Acute physicians- No change

There are 3 acute physicians posts already agreed and one already in post. Another advert for 2 has been placed; it was anticipated to have acute physicians working an extended working day from 8am-8pm over the 7 days. With the front door model not formally agreed, potentially there will be 5 senior doctors available for the front door, 4 will be from ECMS, 1 from RAD.

Summary

Increase of 8 WTE Consultant Radiologists.

4.1.4 Administrative Staff

There are three specific work outputs for administrative staff:

1. The inpatient ward
2. Medical records support
3. Secretarial Staff

Reports from these areas indicate little impact on administrative staff numbers.

4.1.5 Facilities Staff (Support Services)

An updated workforce position for the Facilities Directorate and each of the groups of staff has been produced by the Directorate. In summary, it shows:

Portering – a surplus of 37.4 WTE
Estates – a surplus of 19 WTE
Catering – a surplus of 44.8 WTE
Domestics – a surplus of 3.4 WTE
Administrative Staff – a surplus of 9.9 WTE
Overall – a surplus of 114.6 WTE.

4.1.6 Managing Workforce Change

As highlighted above, there are specific service areas which will necessitate a reduction or increase in workforce numbers. Any affected staff will supported by the Board's Managing Change Policy within which is our key aim is to retain all employees within the Board. This has been further enhanced by the development of the On the Move Managing Change Framework.

Temporary support in the form of a Transition Advisor will ensure staff are matched to appropriate vacancies within Acute and elsewhere in the Board if required.

Given the reduction in sites the Board expects to see maximum efficiency and the reduction in duplication.

4.1.7 The transition of the workforce commenced in June 2014 with the Estates team being identified for key training commencing in August 2014. The commitment is to identify and match Senior Charge Nurses into posts by the end of October 2014 with a rolling programme focussed on service leads through the Autumn.

4.1.8 The local Human Resources teams with support from the Workforce Change team will be aiming to confirm every affected member of staff by December 2014. This will enable more complex discussions affecting staff to be resolved well in advance of the migration for April 2015.

4.2 Decommissioning

4.2.1 The following sites are due to be decommissioned by the end of 2015:

- Western Infirmary
- Yorkhill including Queen Mother's Maternity Hospital
- Victoria Infirmary

4.2.2 In order to support this exercise it is recognised an element of dual-running will occur and NHS Greater Glasgow and Clyde will recruit additional staff to support the decommissioning over 2014/15 and into 2015/16 and also use as many identified displaced staff as feasible. Decommissioning will also provide opportunity for the Division to consider work roles for young people in line with our employability ambitions.

4.3 Organisational Development

4.3.1 There is a significant transformational and cultural change agenda to be implemented which will require a focused approach on redesign and service modernisation to deliver improvements in efficiency and productivity as well as preparing services for the opening of the new acute adult and children's hospitals on the south Glasgow site in 2015. This will include integration of existing teams, new ways of working, changes to roles and responsibilities and the development of new skills and learning.

4.3.2 To support this work Organisational Development plans have been produced for each workstream to identify priority areas. These will be reviewed and updated during 2014/15 as the migration and workforce plans are finalised to ensure OD support is targeted to areas that will be required to undergo significant change as opposed to straightforward transition of services from existing to new site. Work to date has included; specific process mapping activity to support redesign of services; directorate and/or service specific" Away Days"; scoping workshops to help inform final plans and approach.

4.3.3 To ensure success the Acute Services Division will continue to develop and deliver a comprehensive range of interventions designed to support organisational, team and individual development. All of this work will align to the Boards change programme Facing the Future Together (FTFT) which focuses specifically on improvements which will benefit our patients, our people, our use of resources, our leaders and our culture.

4.3.4 To ensure there is a cohesive and structured approach, this programme of service change will be underpinned by the Boards clearly defined culture set out in Facing the Future

Together describing behaviours and attitudes required of all staff across the Acute Service Division.

4.3.5 With this level of change and service transition it is important that there is a strong organisational development (OD) approach with commitment to incorporating OD activity early in the change process for teams undergoing service redesign or required to integrate and adopt new ways of working to address typical reactions and issues associated with this. This may include:

- Exploring practical issues to address different ways of working, traditional thinking to seek agreement and commitment to a newly defined way of working to support effective integrated models of delivery and the implementation of new HI&T systems and processes..
- Cultural issues aligned to this e.g. attitudes and behaviours and unpicking the unwritten rules which define " how we do things around here"
- Clarifying new roles/responsibilities and standard operating procedures or integrated processes required in the new model
- Expressing and addressing fears/anxieties/hopes and aspirations and assumptions/misconceptions arising from the change through a systematic approach to engaging our workforce on changes impacting on them
- Considering how best to ensure that staff moving from previous site(s) are not perceived to "be made to fit into" the new site
- Ground rules/action plans to support all of the above and gain commitment to integrated team working

4.3.6 To support the development of highly effective, engaged management and leadership teams to deliver change and service delivery in a financially challenging environment, it will be important to work closely with management teams to ensure that they build on existing skills to lead change effectively through the use of a range of tools/techniques and OD interventions. This work will be referenced against the Managing Workforce Change Policy and the Human Resources Toolkit as well as providing advice and support on the human reactions and resistance to change and strategies for addressing these.

4.3.7 The Organisational Development team is in the process of developing additional toolkits and materials on Leading People Through Change and Team Integration. This will ensure a consistent approach in all internal OD interventions delivered to support On the Move as well as being useful sources of reference for any manager/team leader within the service.

4.3.8 In addition, during 2014/15, we will place stronger emphasis on leadership /effective team working and staff engagement at all levels of the Division and use the self-assessment tools available through FTFT to support and monitor this. During 2013/14 OD Advisors reviewed leadership roles and access to the planned development within and out with NHSGGC. A process has been established to ensure Divisional uptake on planned development programmes including Ready to Lead, Leading for the Future, 90 minute sessions, Masterclasses and national development programmes. Local leadership programmes/interventions have also been delivered to cascade this to frontline managers and supervisors thus developing leadership capability and capacity across the Division.

4.3.9 A detailed analysis of key groups affected by the changes within each of the directorates will be undertaken and this information will be used to inform a planned programme of prioritised organisational development which will be reviewed and updated on a quarterly basis. This will ensure that any planned activity is focused on both short and long term issues to ensure early engagement of key stakeholders and staff affected by change.

4.3.10 It is envisaged that all of this activity will support the development of a culture of continuous and sustainable improvement strongly focused on performance management to ensure delivery of national, board and divisional service objectives. Redesigning services and developing leaders, teams and individuals will be critical to the delivery of high quality, safe and efficient services for patients, families and carers. This more involving and collaborative approach is intended to improve overall service effectiveness making the Acute Services Division a better place to work and an organisation that everyone is proud to be part of.

5.0 Conclusion

The build of the Hospitals as at end April 2014, remains on-track for opening in the first-half of 2015. Migration plans are currently being devised to take-place over the Spring/Summer of 2015. It is aimed to have moves completed by July of 2015.

The handover date for the new South Glasgow Hospitals is 26th January 2015.

This plan is an iterative document, as service plans and operational policies develop they will be reflected within this plan.

Draft workforce plans for specific professions are currently being agreed, medical workforce job planning has begun with the initial data-collection of current job plan commitments being collated by Medical Staffing Team. A dedicated Allied Health Professions group has been established to undertake planning for AHPs across the Acute Division, with a particular focus on new South Glasgow Hospitals. This group is currently undertaking an extensive benchmarking exercise across the Acute sites for each AHP professional group.

Appendices

Appendix 1: Summary of Recommended Nurse to Bed Ratios and Skill-mix Levels

Specialty	NHSGGC Senior Professional Judgement Ratio
Acute Receiving Units	1.53
Cardiology	1.24
Elderly – Acute Care	1.16
Elderly – Continuing Care	1.08
Gynaecology	1.13
Infectious disease	1.51
Medical	1.17
Neurology	1.41
Oncology	1.38
Orthopaedics – Elective	1.1
Orthopaedics – Trauma	1.32
Rehabilitation	1.34
Stroke	1.15
Surgery	1.26
Vascular Surgery	1.24

Recommended Skill-mix Levels:

Skill-Mix	Registered/Unregistered
ICU	90/10
HDU/CCU:	80/20
Acute Receiving Units	75/25
Specialised Wards (e.g. Oncology)	70/30
Wards	65/35
Continuing Care	50/50

Appendix 2: Supporting Document for Pharmacy Workforce

POSSIBLE CLINICAL PHARMACY STAFFING MODEL

1. Lead Clinical Pharmacist (LCP)

LCPs are currently aligned to the General Manager structure within the Directorates. This structure will continue, for as long as the current Directorate structure remains. Each LCP will continue to lead for the clinical pharmacy service for their specialty/area, and provide their current clinical care to patients and work at directorate level. All LCPs will support the Specialist Clinical Team leads to monitor workload and allocate staff to areas required. They will be the senior decision makers for overall clinical pharmacy issues, and act as a trouble shooter and problem solver for acute issues.. They will be prescribers (or undergo the prescribing qualification, to future proof for the Scottish Government "Prescription for Excellence"). They will allocate pharmaceutical care issues/patients to other pharmacists or pharmacy technical staff as appropriate

2. Specialist Clinical Pharmacist Team Lead (SCPTL)

The SCPTLs will lead a team (subgroup) of pharmacists within ARU or a specialty, and allocate work to this team dependent on triage/referrals. At least 1 SCPTL will always be based within ARU during agreed working hours to manage and co-ordinate the pharmacy team 's workload. They will be responsible for clinical pharmacy handovers on a daily basis , Other SCPTLs within ECMS, RAD and S & A will attend ARU on a sessional basis, and provide a specialist clinical pharmacy service and support their pharmacist teams at ward/clinic level. SCPTLs will have a case load of patients, preferably from their own specialty and be available for advice on complex patients in other areas of the hospital e.g. renal. They will allocate pharmaceutical care issues/patients to other pharmacists or pharmacy technical staff as appropriate., They will attend ward rounds/MDT meetings as required. They will lead on medicines and clinical governance for the patient groups within their team. They will continue to develop and evaluate models of care, manage their team day to day and arrange team "huddles" as required. SCPTLs will be MSc tutors , stage 2 tutors or preregistration tutors They will be prescribers (or undergo the prescribing qualification, to future proof for the Scottish Government "Prescription for Excellence").

3. Middle Grade Pharmacists (MGPs)

The MGPs will be a mix of specialists and generalists. It is expected that those currently based within ARU/specialites will continue to be based in these areas in the new hospital, unless patient activity does not facilitate this. The specialists will continue to provide care of individual patients within their specialty, and as part of a team, will also provide care to other patients, as determined by triage/referral requirements. Generalists will provide care within ARU and the wards, as determined by triage/referral, and will undergo a structured rotation to ensure wide clinical experience. The MGPs will supervise junior pharmacists, and "sign off" patients who have been triaged by junior pharmacists. They will manage the majority of patients independently, and manage more complex patients with input from SCPTLs if required. They will manage teams on a day to day basis in absence of specialist clinical pharmacist team lead. They will allocate pharmaceutical care issues/patients to junior pharmacists or pharmacy technical staff as appropriate. The MGPs will be pre-registration and / or stage 2 tutors, and be prescribers (or undergo the prescribing qualification, to future proof for the Scottish Government "Prescription for Excellence").

4. Junior Pharmacists

The junior pharmacists will be on a training rotation throughout all sections of pharmacy. This will include providing a clinical pharmacy service in ARU and wards/clinics, under supervision of a MGP. They will usually undertake triage under supervision. They will follow up care issues/patients as directed by their supervisors. They will supervise/teach pharmacy students and trainees. There needs to be a strong co ordination of this rota, with the rotational MGP rota, to ensure continuity of clinical pharmacy service across all directorates in times of annual leave, sickness or off site rotation.

POSSIBLE PHARMACY TECHNICAL STAFFING MODEL

1. Chief Pharmacy Technician

The Chief Pharmacy Technician (CPT) will lead the planning, development, monitoring, audit, evaluation and delivery of the technical services within the nSGHs. The CPT will be responsible for all technical aspects of the pharmacy department and responsible for the overall management of all pharmacy technicians and support staff working within the nSGHs. This will include recruitment, personnel issues, development, appraisal and change management. The CPT will also be responsible for the operational management of the pharmacist staff group within nSGHs.

As senior manager, the CPT will contribute to the strategic and operational planning of pharmacy services to ensure pharmaceutical care is provided through adherence to safe systems of work.

The CPT will be responsible for all financial and staff governance activities for nSGH including prioritisation of financial and staff resources, education and training for technical staff, workforce rotas and contingency planning for local service delivery including being an authorised signatory for staff budgets and non salary budgets.

The CPT will be responsible for ensuring all forms of activity reports relating to pharmacy staff or finances are produced to support all GG&C performance targets.

2. Pharmacy Technician Team Lead (PTTL)

The PTTL will support the CPT with the day to day operational management of the Pharmacy Department. The PTTL will be responsible for the day to day management of pharmacy technicians and support staff and will plan service delivery and development for either near patient dispensing services, Making the Most of your Medicines (MMyM) system or dispensing services. They will undertake final accuracy checking of prescriptions dispensed by others. They will assist the CPT with recruitment, personnel issues, staff development, appraisal and change management.

The PTTL will assist the CPT with the strategic and operational planning of pharmacy services to ensure pharmaceutical care is provided through adherence to safe systems of work.

The PTTL will support the CPT with all financial and staff governance activities for nSGH including prioritisation of financial and staff resources, workforce rotas and contingency planning for local service delivery including being an authorised signatory for staff budgets and non salary budgets

3. Senior Pharmacy Technician (SPT)

SPTs will provide a range of Pharmaceutical Services both within the Pharmacy Department and near patient services.

Clinical Pharmacy Technicians will support the Pharmacists as part of the triage and referral system. They will work collaboratively with the Pharmacists identify pharmaceutical care issues within defined patient groups. They will contribute to the efficiency, cost effectiveness and quality of pharmaceutical services within defined patient groups.

Pharmacy Dispensary Accuracy Checking Technicians (PDACT) will undertake final accuracy checking of prescriptions both in dispensing services and in near patient settings. They will manage the daily work schedule for PT and PSW staff working within MMyM system in near patient settings and participate in staff development and appraisal. They will act as key point of contact for defined group of wards and will provide advice and training to medical/nursing staff, patient and carers where appropriate.

4. Pharmacy Technician (PT)

PTs will rotate between dispensing services and near patient services as part of the MMyM system and will participate in the provision of in and out patient dispensing including the dispensing of Clinical Trials. They will also contribute to stock control systems for medicines within dispensing services as well as in near patient services. They will act as a point of contact for ward staff and will provide advice where appropriate. They will provide support and supervision to trainees and to PSWs within the pharmacy department.

5. Senior Pharmacy Support Worker (SPSW)

The SPSWs will provide a range of pharmaceutical services both within the Pharmacy Department and near patient services.

They will contribute to the day to day running of the designated sections which will include dispensing services both in the department and in near patient areas. They will act as line manager for the Pharmacy Support Workers (PSW) staff group.

The ward based SPSW will work alongside the ward based teams and manage the medicine journey to ensure medicines follow the patients where appropriate and that non-stock medicines are managed appropriately.

6. Pharmacy Support Worker (PSW)

The PSW will undertake routine technical activities both in dispensing and near patient dispensing areas as part of the MMyM system. They will dispense prescriptions for in and out patients for final accuracy checking by PDACT.

They will participate in ward top up services and respond to requests from wards and departments for supplies of medicines. The PSW will

assist with stock control within wards and dispensing services including stock checks, stock rotation, and expiry date checks.

POSSIBLE PHARMACY PREPARATIVE SERVICES STAFFING MODEL

The nSGH will have a “state of the art” Aseptic Preparation Unit (520sqm) that will provide a range of aseptic dispensing service such as Centralised Intravenous Service(CIVAS) ,Total Parenteral Nutrition (TPN) and Cancer Chemotherapy for both paediatric and adult patients.

The CIVAS service covers a number of aseptic products mainly for paediatric patients and a small number of critical items for adult patients. There is a difference in the CIVAS products that the Southern General NICU and the Yorkhill PICU/NICU/Schiehallion/other wards receive. The plan is to seek to standardise the range and presentation of CIVAS products before the nSGH Aseptic Prep Unit is operational to allow a 7 day a week service of a limited list of CIVAS items to be offered to paediatric critical care areas and wards. However the current position is that the separate neonatal and paediatric units take a different approach to CIVAS products and this would have a significant impact on the ability and capacity of the Aseptic Prep Unit to provide a Paed CIVAS service unless standardised.

The current staff complement and redesigned staff structure of 23.5FTE Aseptic Preparation Unit staff is due to move into the nSGH Aseptic Prep Unit in 2015. It is not expected there will be any saving in staff costs as the staffing structure has already been redesigned for the move to the nSGH. There will be some small modifications to this staffing structure due to National Bone Marrow Transplant unit being sited in the nSGH which will increase the chemotherapy and CIVAS workloads. Also the Aseptic Prep Unit will be applying for a MHRA Pharmaceutical Specials Licence to allow us to batch produce CIVAS items with extended shelf life and this again will have an impact on the staffing structure going forward .The plan is to enable the MHRA licence to be operational by first quarter of 2017 at the time of the expected closure of Pharmacy Production Unit at the Western Infirmary. The PPU currently batch produce a number of CIVAS items NHS GGC that we will seek to re-provide from the nSGH from 2017.

Preparative Services is seeking to develop pharmacy's input into the prescribing of TPN in the adult wards of the nSGH and also to support the TPN prescribing in nSGH paediatric critical care/wards with the staffing structure/network to support this is in development.

The current core Preparative Service is usually 9am to 5pm Monday to Friday and 9am – 12:45pm Saturday/Sunday (Chemo + CIVAS only). It is not expected at this point that these hours will be changed but will be kept under review.

Document Change Control

Version	Summary of Changes	Changed By	Date	Status
1.0	-Initial Draft	J Pender	9 Dec-13	DRAFT
1.1	-Expanded to include further detail from SOPs	J Pender	4 Feb-14	DRAFT
1.2	-Added Section 1 to provide high-level overview -Workforce Data updated to end-December '13 figures	J Pender	17 Feb-14	DRAFT
1.3	-Change control added -Added overall workforce data to Section 1 -Added Glasgow Royal Inf and Gartnavel General Site info -Updated SOPs -Updated floorplan of Adult Hospital	J Pender	17 Mar-14	DRAFT
1.4	-Updated baseline to March, 2014 figures -Made a number of changes to departmental breakdown lists based on Directorate feedback - Added affected (Y/N) to Gartnavel Depts. -Added a section for Organis-ational Development -Expanded section 1 with High-level Medical Staffing info -Added a refined table showing possible staff at SGH Campus -Medical Day Unit Updated SOP -Outpatients Updated SOP -Nuclear Medicine Updated SOP -Theatres Updated SOP -Added reference to Helipad -NCH-Emerg. Dept SOP Updated -NCH Outpatients SOP Updated	J Pender	14 Apr-14	DRAFT

Version	Summary of Changes	Changed By	Date	Status
2.0	-Updated baseline to April, 2014 figures - Made a number of changes to the location information based on feedback from Directorates - Added a section to provide information on non-Acute areas such as Medical Records and Pharmacy -Updated adult and Children's Floor plans to include additional information and changes - Added a section holder for decommissioning - Added nursing workforce requirements for Adult Hospital - Expanded Pharmacy Workforce section and added appendix 2 - Updated Facilities Workforce change position - Added indicative position for Administrative Workforce - Added support services section to section 4 - Renamed section 4 to Migration and Workforce Change - Updated font/format to correct different sizing through document - Updated bed numbers in the stack – specifically on floors 8-11 - Corporate areas removed			
	- Updated Medical Staffing Info	J Pender	9 Jul-14	DRAFT
	- Added Paeds Nursing Workforce requirements	J Pender	4 Aug-14	DRAFT

NHS GREATER GLASGOW AND CLYDE

ON THE MOVE – NEW SOUTH GLASGOW HOSPITAL

COVER PROPOSAL ARRANGEMENTS FOR SENIOR CHARGE NURSES

The Migration Plan for the new South Glasgow Hospital states that the transfer of services from existing sites will take place as detailed below following the handover of the new Hospital to the Board from the contractors on 26 January 2015 and after the 12 week commissioning phase. The sequence of moves is planned as follows :

Commencing around the end of April 2015 the sites will be transferred in this order :-

1. Southern General Hospital
2. Victoria Infirmary
3. Western Infirmary/Gartnavel General Hospital
4. Royal Hospital for Sick Children

The Board plan is that the new site will be fully operational by the end of July 2015 and that the appointment process for all senior staff, including Senior Charge Nurses, will be in place by 31 October 2014.

In discussion with the Acute Interim Director of Nursing, it is intended that the undernoted process should be utilised to ensure that the ward teams are able to function fully when the new hospital opens.

It is anticipated that although the Senior Charge Nurse will be appointed in October 2014, it is not envisaged that there will be a requirement for them to vacate their current posts until March 2015 at the earliest. Although they will be required to assist in the planning and preparation of their new ward areas it is anticipated that this commitment would not require any additional support until the first hospital moves take place at the end of April/beginning of May 2015.

1. For those Senior Charge Nurses who are currently based in the existing Southern General site and who are moving into the new site it is expected that they will transfer to their new ward immediately. If they will be taking charge of a new area which open later then it is proposed that they support those Senior Charge Nurses who are already at the new site.

2. For those Senior Charge Nurses who are currently based at the Victoria Infirmary but who are required to move prior to the Victoria Infirmary closing, then the Senior Charge Nurse will move to her new ward as planned and her existing ward will be supported by those Senior Charge Nurses remaining on the Victoria site and their band 6 senior Staff Nurses. As the move from the Victoria Infirmary site is planned very shortly after the Southern General site, it is anticipated that this can be achieved without replacements for that Senior Charge Nurse moving to the new hospital.

3. For those Senior Charge Nurses who are appointed to a ward in the new hospital but who are currently based at the Western Infirmary/Gartnavel Hospital, the intention would also be to release these staff immediately to their new role. Whilst their wards could be supported by those Senior Charge Nurses who will be moving later, as this is the last of the moves there will be a longer gap and it is likely that the existing band 6 postholders in these wards will be required to act up until the moves are complete.

J Smith
Head of Human Resources
Emergency Care and Medical Services

29 July 2014

Dear

ON THE MOVE - New South Glasgow Hospitals
NHS Greater Glasgow & Clyde Workforce Change Policy
On The Move Framework

The New South Glasgow Hospitals will be handed over to NHS Greater Glasgow and Clyde with effect from 28 January 2015, which will signal the start of a 12 week period of commissioning. It is anticipated that clinical services will begin migrating to the new location with effect from May 2015.

At our recent staff briefings, we have outlined the significant work that has taken place in relation to Workforce Planning and we have provided clear detail of our proposed staffing for the New South Glasgow Hospitals, including those post types which are most likely to be affected by change.

This planning is based on the assumption that all staff on demitting sites will transfer to the new hospitals. However, we acknowledge that some staff have already intimated that they may not transfer to the New South Glasgow Hospitals.

In order to ensure our workforce planning information is as accurate as possible and to avoid staff having to proceed through unnecessary selection processes, it would be very helpful if staff who have personal issues relating to transferring can complete the proforma attached to this document and return this to the Human Resources Department (Facilities), 1st Floor, MacQuaker Building, Victoria Infirmary, Langside Road, Glasgow G42 9TT.

It is our intention to meet with these staff informally within a two/four week period to discuss and review their concerns. We will then assume that all remaining staff will transfer to the new hospitals and a formal workforce change process will commence thereafter in accordance with the On The Move Managing Change Framework, which was developed in partnership with the Trade Unions and Professional Associations. The overarching principle of this framework and the Board's Managing Workforce Change Policy is to maintain Security of Employment for all staff. This document is available from local HR teams and on Staffnet.

We recognise that this change will affect many current teams and we will be working with Organisational Development to assist in the formation and development of new teams.

If you have any questions regarding the content of this letter, please do not hesitate to contact me on the above number.

Yours sincerely

ON THE MOVE

NHS GREATER GLASGOW AND CLYDE'S WORKFORCE CHANGE POLICY AND PROCEDURE

NAME: _____

PAYROLL NO: _____

JOB TITLE: _____

LOCATION: _____

Please complete the appropriate box below:-

I would like to have a meeting to discuss my possible transfer to a new work location and my concerns relate to:- (Please tick the appropriate box below)

- Childcare
- Other Care Commitments
- Health
- Other personal issue

Further details can be provided below:-

SIGNATURE: _____

DATE: _____

TO BE RETURNED TO:

ON THE MOVE - New South Glasgow Hospitals
NHS Greater Glasgow & Clyde Workforce Change Policy
On The Move Managing Change Framework

Following the recent staff briefings, and in accordance with the Board's Workforce Change Policy and the On the Move Managing Change Framework, I am writing to confirm how you are individually affected by the workforce change process associated with the New South Glasgow Hospitals.

Prior to this, it is important to stress that during this difficult and unsettling process that the key aim of the Board's Managing Workforce Change Policy is to '*maintain Security of Employment for all staff.'*

I can now confirm that, as a JOB TITLE within LOCATION, you are considered to be *'At Risk'* under the terms of the Board's Workforce Change Policy. This means that there are currently fewer posts proposed in the new structure than the current staff number.

In terms of the next stage of the Workforce Change Process, I would confirm that, in accordance with the On The Move Managing Change Framework and in agreement with staff side representatives, staff in your post type will be:

'Matched by Selection'

This means that all staff will be scored using the selection criteria agreed with staffside, based on information provided in your workforce change profile.
Staff will then be matched by rank order to their chosen preference.
Those staff who cannot be matched to a post will be considered to be displaced and will be supported through the redeployment process

To facilitate this process, you will be asked to complete the enclosed workforce change profile and will be provided the opportunity to meet with a member of the management team to fully discuss your preferences and to review your completed form.

These meetings will take place on **day date at** time in Location.
Suitable representation from your respective trade union will be arranged.

On completion and collation of all relevant information, a matching panel, comprising management, staff side and HR, will meet to undertake the matching process.

It is anticipated that you will be notified of the outcome of this matching panel by no later than DATE.

In the meantime, if you have any questions or concerns, please do not hesitate to contact your line manager, local HR rep or local staff side representative.

ON THE MOVE - New South Glasgow Hospitals
NHS Greater Glasgow & Clyde Workforce Change Policy
On The Move Managing Change Framework

Following the recent staff briefings, and in accordance with the Board's Workforce Change Policy and the On the Move Managing Change Framework, I am writing to confirm how you are individually affected by the workforce change process associated with the New South Glasgow Hospitals.

Prior to this, it is important to stress that during this difficult and unsettling process that the key aim of the Board's Managing Workforce Change Policy is to maintain Security of Employment for all staff.

I now write to confirm that, as a JOB TITLE within LOCATION, you are considered to be ***'At Risk'*** under the terms of the Board's Workforce Change Policy. This means that there are currently fewer posts proposed in the new structure than the current staff number.

Whilst I can recognise that this can be a very unsettling time, I would reiterate that the overarching principle of the Board's Managing Workforce Change Policy is to maintain Security of Employment for all staff.

In terms of the next stage of the Workforce Change Process, I would confirm that, in accordance with the On The Move Framework and in agreement with staff side representatives, staff in your post type will be:

'Selected by Interview'

This means that all staff will require to participate in a selection interview based on competency based questions, chaired by an independent panel,.
Staff will then be appointed to identified posts.

In order to facilitate this process, you are asked to complete and return the enclosed workforce change profile by date, along with your preferences.

Your interview will take place on day date at time in location.
The panel will consist of
The interview will be competency based, question and answer format, lasting approximately MINUTES minutes.

It is anticipated that you will be notified of the outcome of the interviews by no later than DATE.

In the meantime, if you have any questions or concerns, please do not hesitate to contact your line manager, local HR rep or local staff side representative.

ON THE MOVE - New South Glasgow Hospitals
NHS Greater Glasgow & Clyde Workforce Change Policy
On The Move Managing Change Framework

Following the recent staff briefings, and in accordance with the Board's Workforce Change Policy and the On the Move Managing Change Framework, I am writing to confirm how you are individually affected by the workforce change process associated with the New South Glasgow Hospitals.

In this connection, I now write to confirm that, as a JOB TITLE within LOCATION, you are considered to be a ***'Match'.***

This means that there are a greater number of posts proposed in the new structure than the current staff number.

In terms of the next stage of the Workforce Change Process, I would confirm that, in accordance with the On The Move Framework and in agreement with staff side representatives, staff in your post type will be:

'Matched to posts'
This means that all staff will be asked to complete the Workforce Change Profile, including your preferences.
A formal matching panel, comprising of Management, HR and Staff side, will attempt to match staff to posts based on their preferences.
If the preferences for a particular area are too great, then the selection criteria scoring will be applied and staff will be placed in their preferred posts by rank order.

Management, in partnership with Staff Side, reserve the right to alter matches to ensure a balanced skills mix within all environments.

In order to facilitate this process, you are asked to complete and return the enclosed workforce change profile by date, along with your preferences. One to one meetings or informal drop in sessions will be on DATE at TIME in LOCATION, at which you will be able to fully discuss the options available to you.

On completion and collation of all relevant information, a matching panel, comprising management, staff side and HR, will meet to undertake the matching process.

It is anticipated that you will be notified of the outcome of the interviews by no later than DATE.

In the meantime, if you have any questions or concerns, please do not hesitate to contact your line manager, local HR rep or local staff side representative.

ON THE MOVE - New South Glasgow Hospitals
NHS Greater Glasgow & Clyde Workforce Change Policy
On The Move Managing Change Framework

Following the recent staff briefings, and in accordance with the Board's Workforce Change Policy and the On the Move Managing Change Framework, I am writing to confirm how you are individually affected by the workforce change process associated with the New South Glasgow Hospitals.

In this connection, I now write to confirm that, as a JOB TITLE within LOCATION, you are considered to be a *'Direct Match'.*

This means that there are a greater number of posts proposed in the new structure than the current staff number.

In terms of the next stage of the Workforce Change Process, I would confirm that, in accordance with the On The Move Framework and in agreement with staff side representatives, staff in your post type will be:

'Matched Directly'

You have been matched to the post of:

Post Title	
Location	
Band	
Hours of Work	
Pattern of Hours	

If you have any questions regarding this match, please do not hesitate to contact me on the above number.

I will contact you again in due course to confirm the dates for this change and keep you up to date with ongoing developments in the coming month.

In the meantime, if you have any questions or concerns, please do not hesitate to contact your line manager, local HR rep or local staff side representative.

From: Kane, Mary Anne
To: Loudon, David
Subject: FW: NSGH Soft Landing Consideration Meeting
Date: 11 August 2014 18:59:28
Attachments: NSGH Soft Landing Consideration Meeting 30 07 14.doc

David - Discussed with Billy our conversation today
please see attached notes of a meeting Billy was involved in to bottom out the estates transition
Mary Anne

From: Matheson, Fiona
Sent: 11 August 2014 17:44
To: Kane, Mary Anne
Subject: FW: NSGH Soft Landing Consideration Meeting

Regards
Fiona

PS I've signed up to improving our email culture

Fiona Matheson\Personal Assistant to William Hunter, General Manager, Facilities South & Clyde Sector NHS Greater Glasgow Clyde \ New Laboratory Medicine & FM Building \ Southern General Hospital [redacted]

FACILITIES DIRECTORATE
NSGH SOFT LANDING CONSIDERATION
WEDNESDAY 30TH JULY 2014 AT 10.30AM

Facilities Meeting Room 5 – New Laboratory Medicine FM Building

---

Attendees

Billy Hunter (BH)	General Manager, Facilities South & Clyde
Jim McFadden (JMF)	Sector Estates Manager
Ian Powrie (IP)	NSG Sector Estates Manager
David Hall (DH)	Director – Currie & Brown

	ITEM	ACTION
1.	**SCOPE** **To discuss Estates Soft Landing for NSGH** ▪ BH advised that there was a critical period where Estates staffing levels fell short of activity demand due to the commissioning, migration and decommissioning of hospitals across NHSGGC. The time line ranges from October 2014 to July 2015, however the critical period relates to February – July 2015. ▪ Following initial discussions with colleagues, it was felt that further support opportunities should be explored and identified to ensure that the transitional period is appropriately resourced. ▪ Following the submission of V3 early Estates staff transfer; the Soft Landings consideration will be considered, subject to further clarity.	
2.	**DAVID HALL CONFIRMED THE FOLLOWING POINTS** ▪ David Wilson, Brookfield Commissioning Manager will remain on site for a 2 year period following building handover. ▪ David Wilson is also responsible for co-ordinating the Estates training programme, therefore there may be opportunity to negotiate further variation out with the agreed project scope and parameters. ▪ Schneider have a committed 3 months overrun following building handover, however DH will explore possibility of extending this period of cover by spreading plan over 6 month period. ▪ There may be availability to resource Trades staff (joiners/electricians/M &E) for support with soft landing. These staff	

	are presently employed by Mercury and will be on site to provide cover during the 12 week commissioning period. Swisslog will provide maintenance and warranty cover (as part of contract) for AGV's. ▪ Other warranty/contracts to be identified which will clarify the essential maintenance elements that require service provision. ▪ Energy Centre – Contacts are in place for: Boilers CHP Chillers ▪ (*) Client Training Sessions:- ❖ Remove all contractor/PPM services ❖ Prioritise what is left ❖ Remove components of equipment and infrastructure that do not require PPM for the initial 6 months	**DH/IP**
3.	**<u>AGREED ACTIONS</u>** a) (*) detailed above – IP/DH b) DH liaise with Brookfield to extend support from 3 months to 6 months c) Establish various levels of "soft landing support" together with costs i.e. – PPM - Energy Centre - Additional Training Warranty compliance/maintenance arrangements to be confirmed d) Produce options supporting Soft Landing.	**DH**

From:	Howie, Sharon
To:	Adamson, Sharon; Archibald, Grant; Baxendale, Anna; Beattie, Jim; Best, Jonathan; Brown, Joyce; Calderwood, Joanne; Cannon, Paul; Crumley, Ann; Dall, David; Dickson, Selina; Dobson, Lorraine; Farrell, Marie; Frances Lyall; Frew, Shiona; Gallacher, Stephen; Gallagher, Peter; Gardner, Andrew; Gourlay, Geraldine; Green, Rachel (NHSmail); Griffin, Heather; Hamilton, Lynda; Harkness, Anne; Hill, Kevin; Hirst, Allyson; Hollowell, Frances; Howie, Sharon; Kane, Mary Anne; Knight, Paul; Louden, Mary; Loudon, David; MacLennan, Aileen; Macleod, Mairi; MacPherson, Anne; Markey, Nichola; McCallion, Margaret; McClumpha, Ann; McColl, Eleanor; McCubbin, Alan; McGrath, Ann; McGrogan, Niall; Murray, Karen; Pencovitch, Laura; Plummer, Fiona; Raeside, David; Rodger, Stuart; Sillers, Barry; Sime, Donald; Singh, Nina; Smillie, Dawn; Stewart, David; Surgenor, Linda; Walker, Elaine; Welch, George; Wright, Robin
Subject:	Additional Paper OTM Meeting Thursday 14 August 2014
Date:	14 August 2014 09:39:50
Attachments:	Item 3biv - OTM Combined August 2014.doc
Importance:	High

Dear Colleagues

Please find attached an additional paper for items 3biv which I previously advised was for noting. Many thanks.

Kind regards

Sharon
Sharon Howie
Corporate Administration Assistant

NHS Greater Glasgow and Clyde

"On the Move" Programme Group

Clinical Support Services, Facilities Services & Building Operational Group Work Stream Update

The group is asked to note the contents of this paper.

Reporting Period

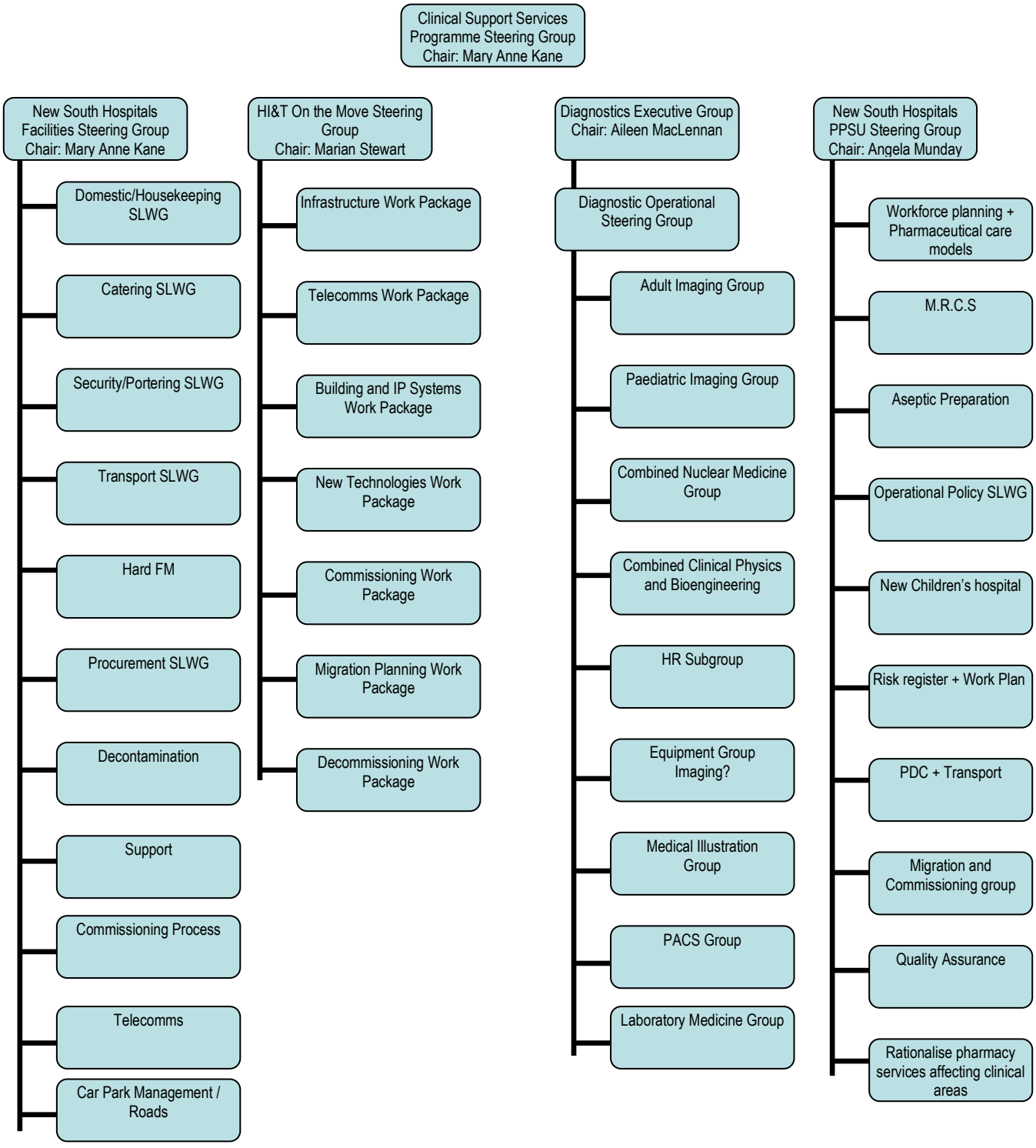
August 2014

Status Summary

This report provides a detailed review of the progress of the Clinical Support Services, Facilities Services & Building Operational Group Work Stream against the established PIDs and the overall milestones developed for each contributing sub group.

The Clinical Support Services, Facilities Services & Building Operational Group Work Stream continues to run through 4 sub groups: the FM sub group, the IT sub group, the Diagnostics sub group and the Pharmacy sub group with associated supporting projects as summarised in the diagram below.

Diagram of Workstream group and subgroups



This report will provide a status on each sub group with reference to the agreed work stream milestones for that month.

The report confirms the planning assumptions being used by the sub group for concurrence and alignment.

It will highlight the progress and key issues identified in each sub group and indicate how these issues link into or may impact on the wider On the Move Programme.

Progress Measurement

FM Sub Group August 2014 Update

August 2014 Milestones	Projected Status for August 2014
Identify FM and Estates equipment to transfer to NSGH	Ongoing discussions re transfer of FM equipment with procurement Group established to look at strategy for the management of patient transfer equipment. Audit of exiting equipment underway
Staff Communication	Site visits for FM STOs and Deputies ongoing Organisational change process commenced with FM staff.
FM Workshops	5 FM workshops on a variety of themes have been arranged for Aug/Sept
Telecoms/Voice Services	IT/Telecoms infrastructure convergence discussions ongoing. Telecoms Migration project plan on schedule Working with Multitone and Swisslog re messaging system for AGVs Mobile phone service supplier completed survey of site, awaiting report and proposals to provide cover
FM Participation in Teaching & Learning Operational Group Feedback to FM Steering Group by Scott Young	FM T&L Operational Group work ongoing Commissioning requirements to be identified and included in FM Migration Project Plan Handover date 28.05.15
Office Block	FM Project Lead appointed to develop operational requirements for offices and to consult and inform future occupants of office strategy
Helipad Operation	1st Meeting of Helipad Operational Group held and schedule of future meetings in place. Proposal to have helipad operational when SGH A&E dept becomes operational in new hospital. RFFS to be recruited and trained to facilitate landing trials during 12 week commissioning period.
Decommissioning	FM Decommissioning resources plan developed including security requirements for vacated sites. Site by site decommissioning groups will be established led by FM.
Generic Ward Operation	FM working with multi disciplinary group to finalise operational procedures for wards. FM to participate in Mock Ward Group
Central Decontamination & Theatres Logistics Group established	Workstream lead Alan Stewart engaged with Project and Procurement teams to purchase washer/dryers for scope decontamination unit
Travel Planning Group Established to ensure requirements from Section 75 are fulfilled	Workstream lead Scott Young Meeting held to discuss patient flows at entrance boulevard, volunteer input and provision of vehicles to assist patients/visitors with mobility constraints
Development of FM Migration Plan to support clinical migration programme.	FM resource plan to support, migration, commissioning and decommissioning complete. FM working with Project Team to plan work activity during 12 week

	commissioning period
Induction & Orientation Process	Developing proposals on delivery of process for approx 10,000 staff with Project Team, Medical Illustration and L&D colleagues. Paper submitted for consideration by Workforce Planning Group
FM staff availability for commissioning and familiarisation training with BMCL and system providers	Identifying staff required and methods to backfill, work ongoing
Establish Catering Migration Group to plan early move into new department	Group established, project plan under development to include proposals for access arrangement to new restaurant during commissioning period
Planning Assumptions	
Paper light health records no portering input required TBC	
Retail Catering – To be included in retail strategy paper	
Key issues and progress made	
Single Room Cleaning review with external agencies	
FM participation in Generic Ward Operational Planning Group Ongoing	
Collate all Patient Movement Activity and develop associated staffing Ongoing	
Standardisation of Sterile Instruments. Discussion led by S&A	
Review of Ward Product Management Arrangements – underway Pharmacy/Procurement Ongoing GH to update	
New skills set for Estates Staff/new technology – Estates Forum reviewing. IT assessment underway.	
Age profile of Estate Staff – Succession planning review underway	
Reliance of IT network for BMS controls: Ongoing fortnightly BMS meetings with IT & BMCEL	
Next steps for Q3 2014	
Detailed plan for 12 week commissioning period to test activity , agree staffing requirements equipment delivery routes, patients transfer points.	
Develop Helipad operational safety manual, recruit FM staff to role of RFFS, procure PPE and arrange training	
Develop Fire Safety Training video for NSGH induction process Complete Fire Safety training content for Fire Wardens	
Continue with Organisation Change process with FM staff	

NHS Greater Glasgow and Clyde

August 2014

HI&T OTM UPDATE

24 Weeks to Handover @ 11 August 2014

For noting

- Bed speciality compliment complete with exception of Medicine – propose to hold a session with HI&T key stakeholders in September to review migration planning
- Karen Connelly developing commissioning programme – propose to hold a session with HI&T key stakeholders in September to review HI&T commissioning planning
- Migration Logistics Group led by David Stewart
- Health Records Operational Policy Documents (Adult & Children) now on Sharepoint
- New builds for Office Block (April 2015 handover) and Teaching & Learning (May 2015 handover) progressing well
- Wilma Kilroy reviewed plans for T&L and IT Training Space
- Office Block assumptions paper drafted
- Initial business case for GGH submitted to SGHD Capital Investment Group – HI&T requirements need to be documented.

August 2014 Delivery Milestones	Projected Status for August 2014
Developing HI&T Commissioning and Migration Programme In the absence of the bed model	On-going – Continuing to work with services to develop service transfer owner workbooks On-going - Continuing gap analysis output from ongoing departmental equipment meetings. On-going – Continuing to work with the project team on the pre equipping requirements On-going – Continuing to develop the HI&T commissioning plan working closely with FM colleagues and project team.
Developing applications rationalisation strategy specifically the departments coming together on the SGH campus. Documenting the priority clinical and FM applications that will routinely be used in the NSGH	On-going – Continue to develop workplans for priority applications and implement changes where required
Working with the service to assist in the development patient pathways through the use of Trakcare. HI&T resource will work with services from April 2014 to develop the Takcare process, assist in identifying, where applicable, changes required to the pathway and to Trakcare. Develop Trakcare workplan. **Dependencies for Trakcare – to develop floor plans the team require the official names of the new hospital(s), speciality and bed compliment**	On-going – Continuing to work with the service focussing initially on the undernoted areas: SDA Unit Medical Day Unit Acute Assessment Unit (Adult) / 24 Hour Unit (Children) Pre-Op Assessment Discharge Lounge On-going – Develop workplan for Trakcare to support ward builds, Out-patient clinic template builds, interface changes for OCS, etc,.
Developing Health Records Operational Policy/Resource Requirements/ Process Mapping Ward/Department builds information required – end August 2014 Out-patient template information required – end August 2014	On-going - Health Records working with services to review the resourcing requirements for areas such a ED, AAU, SDA and MDU On-going – Continuing to work with the service to develop Trakcare related process mapping pathways On-going – Continuing to work with Out-patient Steering Group to determine OP clinic requirements and communication requirements.
Wardview Project - Installation of Scottish Government funded pilot in the Western Infirmary to track patients through digital wards. The new digital whiteboards replace traditional whiteboards in hospital wards with a digital touchscreen.	On-going – Live in all identified WIG ward and Bed Management Office. Roll out agreed as per Wardview programme. On-going – Reviewing and developing commissioning plan to support installation of Wardview in NSGH

Kiosks & Patient Calling Project – Installation of technology to support modernisation of patient check in and patient flow in out-patient department. Initial implementation at SGH and RHSC out-patient departments. Contract for NHSGGC awarded to Tecnologias Plexus (product name is Quenda Medical).	On-going - Reviewing and developing commissioning plan to support installation of kiosks and patient calling in NSGH
Draft Decommissioning Paper to support health records and IT decommissioning – this will support the closing of hospital and demolition	On-going –Continuing to develop decommissioning planning with Margaret Campbell and colleagues.
Installation of LAN infrastructure 12 milestones agreed – last milestone due for completion in June 2015 Financial plan in place and on target to meet financial milestones.	On-going – Acceptance testing of switches in nodes has on-going. On-going – Installation of Wireless Access Points has commenced – Brookfield led programme
Continue to develop 3rd Party IP systems plan e.g CCTV, AGV, Building Systems, Nurse Call, Pneumatic Tube	On-going - fortnightly meeting with builder, ME contractor, and FM colleagues On-going – developing SLA with 3rd party suppliers and estates department. On-going – Continuing to work with Brookfield on the requirements for patient information boards/travel & transport monitors/patient entertainment
Printing Strategy to be developed for Hospitals and Office Accommodation	On-going – Infrastructure Development IT colleagues are developing secure personal printing strategy for the new hospitals and office accommodation.
Scanning Strategy being developed for NSGH Adult & Children's Hospital	On-going - Health Records Scanning Lead is preparing a paper that will describe operating policy to support health records scanning for the new hospital covering ED and OP. RHSC ED scanning to commence in June 2014. SGH ED to be progressed WIG ED service decision to be made as not currently managed by Health Records.
Mobile Tablet Technology Strategy to be developed for Hospitals and Office Accommodation	On-going – standard build for Windows 8 Tablet device currently being developed and entering a testing phase with applications colleagues. Timescales for completion likely to be early summer 2014. On-going – develop mobile tablet technology strategy – SLW Mobile Device Group chaired by Marian Stewart, PM'd by Doug Allan – engagement through David Stewart/Rory for clinical representatives to attend mobile device workshops that will be planned last week in June 2014. Linking in the Eleanor Naismith and also Occupational Health
Contribution to Teaching and Learning Operational Steering Group **Innovative piece of work underway with HI&T network colleagues and UofG IT networks team to implement shared wireless. Intention to pilot this in the Labs/FM building with a view to potentially roll out across NHSGGC.**	On-going – LAN infrastructure procurement ITT currently being written. Joint Office/T&L ITT On-going – Continuing to work with AV group to review requirements.
Contribution to the Office Accommodation Facility operational planning	On-going – LAN infrastructure procurement ITT currently being written. Joint Office/T&L ITT On-going – ensuring that any IT dependencies are reviewed.

Planning Assumptions

- EPR and paperlite rolled out for both in-patient and out-patient and staff familiar with processes prior to move to new hospitals as no storage area for case notes in the new hospitals – assumptions for both Adult and Children's Hospitals
- New Trakcare processes for the NSGH Adult and Children's Hospital will be developed by December 2014 and staff familiar with processes prior to move
- Kiosk and patient calling implemented in SGH and Yorkhill prior to move to new hospital
- Redesign and patient flow has been documented and staff aware of how technology and health records can support and improve efficiencies.

Key Activities and progress made

In addition to above milestones:

- Project plan for Trakcare produced
- ITT produced for Teaching & Learning Facility and Office Accommodation ITT – CMorrison review options via Swan and NSS
- Continue to work through STO workbooks and identify IT equipment gaps and pre-equipping requirements
- Reviewed location for kiosks hardware in the NSGH Adult Hospital

- Review location of Wardview Digital Boards in Adult & Children's Hospital
- Health Records Operational Policy documents on sharepoint

Next steps for Q2 2014

- Develop commissioning and migration programme plans
- Patient pathway review with Bed Management key stakeholders
- Progress development of Secure Personal Printing Strategy (SPP)
- Review faxing requirements
- Continue to develop mobile tablet technology strategy paper
- Continue to work on tasks identified in projected status above
- Document and follow up on 'new' pathway processes that have been identified from the Working Operational Policies that could impact on the way that Trakcare is used. Areas to be reviewed POA, MDU, Admissions/SDA Unit, H@N, AAU
- Develop workforce planning and support plans specifically for OOH support

Progress Measurement

Diagnostic Sub Group August 2014 update

August 2014 Delivery Milestones	Projected Status for August 2014
Capacity review of Imaging and Nuclear Medicine Departments using 13/14 actual activity Review of departmental capacity has been undertaken for the Adult and Paediatric Imaging departments looking at comparative annual data. Account has also been taken of the shift of activity from Adult to Paediatric Imaging and within the Combined Nuclear Medicine Department, to reflect the 13-15yr old population Using identified demand by modality for the past 3 years activity to 14/15 has also been estimated This highlights some areas of concern but also better informs the development of the Workforce plans Further review is now underway to look in detail at referrals in particular to Adult Imaging and to model how Imaging whilst maintaining all current access targets, might be able to contribute to reducing inpatient length of stay.	Capacity review based on 13/14 activity for Imaging in GGC to take account of activity moving to GRI from GGH is complete. This re enforces the requirement to extend the working day in order to respond to growing demand in CT, MR and Ultrasound, in particular The Diagnostic team have detailed the additional clinical support required in ACAD's to allow more flexible and extended use of their facilities. This has been fed back as requested to the Emergency OTM and the Outpatient and Day Case Steering groups for consideration. An outcome is awaited to allow further activity modelling. The Diagnostic AMD has raised at the CEG group All OTM Operational Policies have been reviewed to ensure that Diagnostics is aware of proposals to alter patient pathways. Pathways are continuing to be developed in Stroke and Imaging representation attends the Stroke OTM group.
Development of Diagnostic Migration Plans	In support of the overall migration, Diagnostics have prepared departmental migration plans. Key dependencies have been shared with the Project team, and risks identified. This work is progressing now that further detail of the overall migration plan is available. Staff double running pressures are now being identified and will be brought to the Diagnostic Directorate Board on the 22nd August, prior to escalation.
Equipment scoping session undertaken within Diagnostics with input from the Project team Radiation Protection Staff are in the process of reviewing all the 1:50 plans for relevant areas	Keys pieces of equipment have been identified that are suitable for transfer. As previously detailed all new group 5 equipment except MR and SPECT CT have been delivered to site, boxed. Installation will commence in Sept 2014. Initial meetings have taken place re non Group 5 equipment review with the Project Team for Adult and Paediatric Imaging, Combined Nuclear Medicine and Medical Illustration. These meetings are the first of a number. Meetings with Clinical Teams, Suppliers and the Project team have commenced and should be complete by the end of August. These will serve to agree installation timelines and details. A full project plan to support this activity is in place. Migration workbooks have been completed as requested by the Project team Radiation Protection staff have completed their site survey to confirm the adequacy of shielding that has already been incorporated in the building. A full report has been provided to the Project team, some amendments are required and a response from the Project team is awaited.
All Planning Groups have developed 'Issue; logs and Risk Registers. The Diagnostic Executive has an overarching Risk Register for the Project	Achieved
The HR subgroup has agreed a communication strategy for the Directorate. Further Corporate guidance is awaited, following this wider Diagnostic staff communication sessions will be undertaken	Formal HR/Partnership Director Led information sessions were held in all sectors in March/April Imaging specific meetings are now complete with just one final meeting with Victoria staff, which will take place on the 21st August, these will be followed by sessions for DCPB staff.

	These are being led by the General managers in partnership and with HR support. Final draft workforce plans are in place and initial meetings with corporate HR have taken place at management level. Within Imaging rotas have been developed in partnership and shared with staff. The gap for all staff groups to provide 3 session days on the NSGH site is being finalised.
The Laboratory Management team have set up a formal subgroup as part of the Diagnostic Governance structure to deliver the new hospitals project This group will address all relevant issues highlighted in Directorates' OTM Operational Policies - it will oversee the commissioning of the rapid Response Lab on the Vic ACAD site - Provide a policy for the use of the Pneumatic Tube system and a commissioning plan for the system - Provide support and guidance on the provision/transfer of Point of Care testing (POCT) and blood fridges within the new hospitals	The building work to fit out the ACAD Vic Laboratory is now complete. Swisslog are scheduled to commission the system in June/July 2014 and will revisit the site post handover early in 2015 to recheck the system and work with Estates to operationalise the system.
Preparation of Operational Policies for all areas within Diagnostics	The most recent updates of all Diagnostic Operational Policies are available on Sharepoint in the Clinical, Operational and Facilities Services OTM section link. Work is also being undertaken to update the New Laboratory Operational Policy to reflect the changes that the new hospitals will bring to the Southern site.
Revised Workforce Plans for each Department	All areas within Diagnostics have prepared final draft Workforce plans for 2015. A number of facilitated sessions have been held by the Diagnostic Directorate teams to review and complete these and agree service delivery strategies for our services post 2015. Diagnostic representatives have attended recent corporate HR 'workforce' sessions for information. Diagnostics have completed detailed Workforce plans and draft rotas
Identify link individuals for relevant Diagnostic services to link to appropriate OTM planning groups	Achieved and feedback communication structure in place within the Directorate
Diagnostic Project Plan development	As requested all subgroups within Diagnostics have developed detailed project plans in the Corporate template and these have been made available to the Project Manager
Planning Assumptions	
All capacity planning is modelled on a 2 session day with OOH's cover as at present. Workforce plans are being drawn up for both 2 and 3 session days.	
Key Issues and progress made	
Various drafts of Operational policies are available for Adult Imaging, Paediatric Imaging, Combined Nuclear Medicine, Medical Illustration and Clinical Physics and Bioengineering on SharePoint	
3 areas where EQIA will be undertaken have been identified	
Further departmental detailed workforce plans have been completed by 14th March 2014	
Specifications for Group 5 equipment are complete	
Equipment tender evaluation is complete, a large proportion of equipment has been procured and delivered to site.	
Wider Diagnostic Staff Familiarisation sessions in place	

Other Directorate operational Policies have been reviewed and comments fed back where required
A formal Laboratory Medicine subgroup is in place as part of the Diagnostic Governance Structure
Directorate led communication events have taken place in partnership in all sectors
A detailed Diagnostic Project Plan is in place which includes OD input
Review of location of Stem Cell Laboratory complete
Draft Migration plans are in place for Adult/Paediatric Imaging and Combined Nuclear Medicine, dependencies have been identified and shared with the Project team
Next Steps for Q2 2014/15
Ongoing work to complete all Department Operational Policies. The South Laboratory Medicine Operational Policy is being amended in anticipation of the forthcoming change in services on the South site.
Final agreement of Workforce plans and identification of staffing gaps to provide a 3 session day on the NSGH site
Further work on Migration workbooks by STOs
Continue the process with Project team to review 1:50 plans to agree further equipment requirements and any gaps
Ongoing new hospital services awareness raising through ‘Familiarisation’ presentations to Diagnostic staff
HR Diagnostic Road shows to be undertaken in partnership through June- Sept GM led service specific
Continued measurement of progress against the Diagnostic Project Plan
Development of detailed specific migration plan for Adult and Paediatric Imaging and Nuclear Medicine and all other Diagnostic Depts
Through the NSGH Laboratory Subgroup agreed pathway to ensure seamless support to BMT from Stem Cell service once it transfers to NSGH
Detailed planning for Imaging equipment installation in collaboration with Suppliers ad the Project team
Cross site staff integration events to begin the process of building ‘new’ teams
Identify staff double running costs to support the migratrion
Issues for escalation
Medical Cover availability OOHs in ACADs

Progress Measurement

Pharmacy Sub Group Aug 2014 update

Aug 2014 Delivery Milestones	Projected Status for Aug 2014
Planning Assumptions	
Robotics for dispensing services and ARU	The OJEU process underway. Both robots will be installed directly in the NSGH. Brookfield planners want the installation to take place in February 2015
Aseptic Unit fit for purpose	In progress
Clinical Portal/TrakCare/Digital Whiteboard flagging for pharmaceutical care (Pharmacy View). Require mobile technology	In progress. Pharmacy View specification finalised and functionality being tested. Ten tablets being piloted within Clinical pharmacy across GG&C. Pharmacy attended recent mobile device workshop and testing other kit (Doug Allen). To test communications app August
Understanding of patient pathway (including pre-admission clinics)	Awaited from Directorates. For discussion at STO seminar, August
Bed configuration and extended hours expectations on pharmacy services.	Awaited from Directorates. For discussion at STO seminar, August
Key Issues and progress made	
Clinical Pharmacy Triage on medical wards commenced at the Victoria Infirmary. Cannot roll out further until Pharmacy View available (see above)	
Mmymeds roll out for South Glasgow, Yorkhill and WIG continuing. Next step is to move to preferred model over the summer	
Workforce planning for all staff in progress. Ongoing liaison with Jonathan Pender. Workforce descriptor in opnal policy v2, sharepoint. Using indicative beds for local discussions with senior pharmacy staff	
Whole Week Working (WWW) steering group considering hours of service provision for all hospital sites, including NSG, based on current admission and discharge patterns. Forerunner pilot for clinical/mmymed weekend working undertaken at GRI March/April – positive feedback from medical, nursing and pharmacy staff - detailed analysis awaited. Papers submitted to APF re review of service hours and on-call. Pharmacy staff asked to describe hours and service required for each sector – for end of August	
Patient Calling – commenced discussions with Ranald Swanson Feb 21st, to describe requirements by pharmacy for OP prescriptions. Joanne attended demo 10th April	
1st OD session took place 4th February. Well received – staff appreciated update and opportunity to discuss issues. OD report received and next steps being proposed – generic kit for team building and change management? OD advisor member of the PPSU NSG steering group.	
Pharmacy Risk Register updated. Risks feed into corporate risk register	
Pharmacy input into generic ward group and discharge lounge group continues. Now attending DME subgroup	
Gantt Chart updated	
Pharmacy Champions have been identified to ensure continual engagement and communication.	
Office space for certain pharmacy staff within NSG clarified	
Next steps for Q3 2014	
Met with Tricia Duncan and Robert Bryden from transforming clinical administration. Robert shadowed clinical pharmacists for process mapping in January. Report received - highlights various issues, including the need for mobile IT to support pharmacy processes at ward level. Robert now to shadow MMyMed technical team	
Out patient dispensing review with primary care ongoing.	
Aseptic Unit 1in 50 awaiting sign off.	
PDC process mapping + models for delivery. Requirement to review the PDC current service provision	
Review of stock holding per speciality, once bed configuration known	
Ward stock drug automation - business cases being considered by acute SMG.: decision awaited	
Ward fridge capacity – raised by Generic Ward Group. Ward fridge capacity altered - potential issue for storage of TPN at weekends, including BMT unit. Generic Ward Group in liaison with PPSU Aseptic Services.	
Service lead for BMT raised concerns regarding drug storage within Haem/Oncology ward. Issues highlighted to	

Fiona McCluskey and Heather Griffin - await outcome. The generic ward principle has been applied and this may not be suitable due to the high volume of I.V meds and specialist medicines required.
Continue to work with OTM Sub Groups to support redesign, planning assumptions and review Operational Policies in relation to Pharmaceutical care. Current work ongoing regarding dispensary flow and SOP's to support this work – to add detail to next version of the PPSU Operational policy.
Continue to update work plan to reflect the requirements for the commissioning, migration and decommissioning of pharmacy departments/services for transfer to NSG. STO's identified to take forward specific workstreams.
SBAR to be produced for Clinical Trials for WoSCC, with no HDU at GGH. Gene/biologicals trials require on-site HDU facilities &/or specialised transport. N. Lannigan leading on this.
Patients Own Drugs Lockers - previously advised these would be new within the new hospitals. Different ward configurations will cause logistic issues for nursing/estates staff once in the new build. Escalated to John Stuart and Fiona McCluskey for action
Pharmacy Services will be provided to the Neuro Sciences Building, Langland's Building and the Maternity Hospital. Discussions to commence regarding the Medicines Management rooms required for the dispensing and clinical functions for Neuro Sciences . This agenda item raised at last OTM meeting and to be escalated as a risk to the project.
Discussions on uniform nebuliser policy commenced
Meeting to clarify drug storage in clean utility rooms to be arranged

ISSUES

Indicative bed configuration now known but **specialty numbers awaited plus service redesign details** (e.g., changes of hours for clinics, changes to patient flow/journey, role of discharge lounges)

Details of **migration plan** required.

COMPLETED ITEMS Aug 2014

Operational Policy	Version 2 on Share point and Staffnet
Impact of Discharge lounge	Pharmacy represented on this sub group
Review of Existing Workforce	Staff lists collated
Finalisation of Fridge Specification for clinical areas	Completed
Commissioning period for pharmacy may be more than 12 weeks – Brookfields advised 16 weeks may be required	Advised
Clinical Policies and Protocols Standardisation	AM submitted to AMD group
Clarification of POD lockers	Standard locker specification agreed and details supplied to Procurement. Potential benefits of automated lockers for discussion with acute SMG
Career framework for clinical pharmacists to support workforce planning	Career framework for clinical pharmacists finalised June 2013
The move to the new Southern General pharmacy dept which has tested new delivery models of pharmaceuticals. Delivery models working well. Complete	
Pharmaceutical care new model - triage and referral systems approved by AMDs and acute CGC. Shared with ward operational group. For implementation 2014 once Pharmacy View (digital whiteboard) available	
Pharmacy roadshows commenced May and finalised in June.	
Office space for senior clinical pharmacists within NSG clarified	

From: Powrie, Ian
To: Wallace, Stephen
Subject: FW: Advert - Duty Manager NSGH Estates
Date: 15 August 2014 14:41:00
Attachments: Hospital Estates Duty Manager (Band 7) (11.08.14).docx
Advert - Duty Manager NSGH Estates Co-ordinating Officer.doc

Stephen

On the desirable qualification for AP duties I have added Minimum NC electrical.

Regards

Ian

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Wallace, Stephen
Sent: 15 August 2014 14:01
To: Powrie, Ian
Subject: FW: Advert - Duty Manager NSGH Estates

Ian

I kept this as your original advert was. Is that ok re requirements for the posts?

S

Agenda For Change Job Description Template

1. JOB IDENTIFICATION

Job Title: **Hospital Estates Duty Manager**
Responsible to: **Senior Estates/Site Manager**
Department: **Estates**
Directorate: **Facilities**

2. JOB PURPOSE

Working on a 24/7 rotational shift basis, the post holder will have responsibility for ensuring the seamless delivery of Estates services enabling the provision of safe quality patient care.
The post holder is part of a team of Estates managers who are professionally responsible for meeting the organisations key objectives, for the delivery of patient care by the provision of effective, efficient and safe operation & maintenance of estates services, systems and budgetary resource, in compliance with statutory requirements & mandatory NHS Healthcare standards & guidelines, for the day to day operational activities of the Estates Department, technical & managerial control of directly employed and specialist contract staff, and to manage delegated capital projects.

This is a highly specialist post with a high level of expertise is required to effectively deliver the service within a multi-discipline estate function.

3. ROLE OF DEPARTMENT

To provide a safe comfortable & statutory compliant environment for the effective provision of state of the art clinical care for our patients.

This is achieved by maintaining and delivering an effective Planned Preventive Maintenance programme and reactive repair service as well as executing installation and commissioning works of critical plant and equipment to support the delivery of all clinical services.

Provide an integral contribution to the continual management & control of Health Associated Infection with respect to the built environment, in compliance with national HAI SCRIBE, Health Environment Inspectorate (HEI) & Healthcare Associated Infections Task Force audits and Facilities Management Tool (FMT).

Provide technical support & expert guidance in the design and implementation of clinical service developments, including development support in the writing of specification & preparation of tender documents through to awarding contracts, planning & organising the projects.

4. ORGANISATIONAL POSITION

Insert the appropriate organisation chart for the role here – *see sample job description*

5. SCOPE AND RANGE

The postholder will have responsibility in the following areas:

Maintenance Budget – post impacts directly on this budget of approximately £2 million, as the post-holder will be required to order plant, materials & labour to allow the execution of maintenance activities, on the site.

Capital & Backlog Maintenance Budgets - post impacts directly & indirectly on these budgets, in the range £250k - £1 million. The post-holder has project control within set budgetary limits over the design, development & specification of new works, upgrades & modifications, as well as providing technical advice & support to works not directly controlled by the post-holder, through inter-action with the project manager, staff, technical consultants, design teams, contractors & specialists.

Capital Projects – post contributes to these projects, as the post-holder will facilitate the integration of new projects to existing services & infrastructure, through inter-action with the project manager, clinical & non-clinical staff, technical consultants, design teams, contractors & specialists.

Staff resource – The post-holder has supervisors reporting directly, supported by a range of Multi-Skilled M&E Technicians (Specialists) & Craftsmen. Maintenance Crafts-persons (joiners, Slater/plasterers) and Maintenance Assistants. The post-holder also Interacts with office staff and technical clerks, on a regular basis.

Out with normal working hours the post-holder communicates directly with Shift Staff, Maintenance Technicians,

Clinical & Non-Clinical Staff based on-site and on-call staff, receiving information and co-ordinating works via telephone and attending site when required.

External Contractors – The post-holder also regularly utilises the services of external contractors, both on a fixed term contract basis and an ad-hoc basis. Examples here include, Medical Gas Specialists, Lift Engineers, Nurse Call System Contractors, Heating Engineers, Electricians (Ad-Hoc Contractors), Fire Alarm System Contractors, Painter/Decorators, Floor-layers (Fixed-term Contractors) & Roofing Contractors.

Out with normal working hours the post-holder has complete autonomy to utilise the services of external contractors on an emergency response basis, whilst being mindful of budgetary & resource limitations for situations such as burst water mains, major electrical faults, heating breakdowns etc as and when required and when carrying out pre-planned works, such as electrical shutdowns, water main diversions, heating alterations etc.

6. MAIN TASKS, DUTIES AND RESPONSIBILITIES

Key duties will include, but not be limited to:-

1. Participate as Estates Duty Manager in a 24/7 rota covering day, back & night shifts on a rotational shift basi
2. Overseeing the delivery of the range of Estates services ensuring consistent high quality provision including the day to day management of complex healthcare engineering installations such as medical gas pipeline systems, emergency power generation systems, steam\MPHW generating boilers, nurse call systems, hot and cold water systems, Legionella prevention systems, theatre plant and equipment, and for analysing maintenance options to ensure the continuity of life critical systems.
3. Resolution of operational challenges to ensure the seamless delivery of services including investigating incidents & hazards reported via DATIX incident reporting system; prepare assessments and compile expert reports on findings and judgments and Investigate, analyse & diagnostics complex fault conditions electrical/mechanical systems and equipment. & provide expert technical support and guidance to technical staff & contractors
4. Ensure services provision compliance with all statutory & legislative standards and local & national policy, protocol and procedure and that all work is carried out in compliance with all appropriate statutory & mandatory guidance & legislation, including NHS Technical Memoranda & Health Building Notes, British Standards, Technical Standards etc;
5. Maintain a high profile presence acting as the primary Estates interface on a day to day basis with Facilities colleagues, clinical staff, patients and visitors.
6. Effectively manage a preventative and reactive building and grounds maintenance and repair service, for the benefit of patients, staff, and visitors and public including liaising with each of the audit teams in the efficient management of HAI/HEI & FMT Health Associated Infection issues, processed via the FmFirst Computer aide facilities management (Cafm) systems generated works reports.
7. Control, manage and authorise expenditure of the maintenance budget within delegated limits and provide multiple departments with budget costing for service development. In particular these budget costings entail the post holder obtaining information and ensuring the feasibility of the planned service development. The costing frequently cover a broad range of complex technical systems (e.g. Ventilation, Power, Water supply, Heating & Cooling etc) which require organisation and planning to ensure the project is achievable in cost and timescales. This often impact on multiple departments, services and agencies when performing site surveys etc.
8. This involves the controlling of budgets and costs during the projects and signing off the interim and final payments to suppliers of goods and contractors. Budgets range up to £1 million. The post holder also impacts on budgets held by others. The post holder is often required to manage multiple projects at the same time that are each within this budget range. The post holder has the freedom to employ external contractors and negotiate their contracts including prices as per the Boards SFI's.
9. Work closely with Estates colleagues, Ward Managers, Senior Managers & Heads of Departments, external contractors & consultants on a day to day basis and providing specialist Estates related technical advice where required or requested;
10. Close liaison with essential service providers & utility companies on a day to day basis and providing Estates related technical advice where required or requested;
11. Manage service interruptions, in co-ordination with other clinical & non-clinical staff within the hospital, verifying that contingencies have been identified & covered, supported by Risk Assessments, Method Statements & Permit to Work Systems;
12. Provide as 'Authorised Person' a highly specialised service management and system control e.g. for High

Voltage Electrical Systems, Low Voltage Electrical Systems, Medical Gas Piped Systems (MGPS), to ensure compliance with Legislation, Safe Codes of Practice, Scottish Health Technical Memoranda (SHTM's). Undertake training, typically of two weeks duration, by independent accredited organisation, retraining and examination every 3 years to maintain AP registration.

13. Management of Human Resource issues through NHS Scotland PIN Guidelines & NHS Greater Glasgow Human Resource policies, such as first line formal discipline relating to absence management, first line informal grievances, annual leave, special leave, timekeeping, overtime, interviewing, selection of staff & staff training & development, maintaining records, extracting information & Ensuring Human Resource guidance & protocols are adhered to.
14. The post holder performs staff appraisals, control personnel career development, controlling departmental workload and allocation of blocks of work to ensure appropriate training and management of personnel covers a broad range of activities to ensure that trades personnel are competent to perform maintenance works.
15. Also post holder is required to organise clinical staff awareness sessions to inform users on the correct use of various types of complex installations such as intelligent door access systems, nurse call systems, intelligent lighting systems etc.
16. Contribute to the compiliation of surveys of building and building services and feasibility reports as directed and ensuring maintenance of accurate computerised databases relating to various aspects of the department.
17. The design & specification of new work, upgrades & modifications, utilising the Board's SFI, tender or competitive quotation procedures, generated both from out with and within the Estates Department & at the request of the Estates Manager. This may include obtaining Building Control/Planning approval, arranging pre-contract meetings & applying budgetary control;
18. Representing Sector Estates Manager & Senior Hospital Estates Manager at meetings and contribute to overall board strategies on the Estates Service.
19. Actively participate in the investigation and implementation of an Energy Saving programme to reduce the hospital's energy expenditure;
20. Reacting, as part of a co-ordinated Estates response to unforeseen emergencies/events, such as power supply failure, flood, water supply loss or as part of the hospital's fire response team where technical advice is given to the fire service on isolation of critical services in the event of a fire. The post holder co-ordinates and communicates the isolation of services.
21. Liaise with each of the audit teams in the efficient management of HAI/HEI & DMT Health Associated Infection issues, processed via the FmFirst Computer aided facilities management (Cafm) systems generated works reports.

This list is not intended to be exhaustive and other duties commensurate with the grade of post will be expected of the postholder.

7a. EQUIPMENT AND MACHINERY

Please describe any equipment & machinery used in the job:	*Give brief description of use of each item used:*
a) Office equipment:	Telephones, faxes, photocopiers, laminators.
b) I.T. Equipment:	Personal Computers, • Printers, • Scanners, • A4 – A0 size Plan\drawing copiers\scanners • PDA's
c) Photo Equipment :	digital camera
d) Specialist tools & equipment – measurement	Electronic\PC\software based testing and monitoring equipment, used for measurement, calibration, verification and assessment\ surveys. Required specialist knowledge and experience to operate, calibrate, fine tune, analyse, interpret and record results on the following complex

	utilities, building services, Plant & equipment, including Ai volume & speed measurement, Building fabric Thermal losses & U values, Energy & power quality monitoring, Thermal measurement
7b. SYSTEMS	
Please describe any systems used in the job:	*Give brief description of use of each item used:*
a) Verbal Communications	a) For general communications, receipt of information, passing instructions etc
b) Safe Systems of work –	b) As formally appointed Authorised Person (A.P.) Implement formal Safety policy & procedure, by application of defined safe systems of work and associated safety documentation. Prepare risk assessments, safety programmes, and appropriate safety documentation for the safe management of works (i.e. Permits to Work, Sanction for Test, Live working permit) for control of the following critical services : • High Voltage Systems: (Scottish Health Technical Memorandum SHTM 06-03) • Low Voltage Systems: (Scottish Health Technical Memorandum SHTM 06-02) • Medical Gases Piped Systems (MGPS): (Scottish Health Technical Memorandum 02-01) Pt B: Operational Management • Hot works: Fire code: SHTM 85 • Excavations: HSE :HSG 185 • Confined spaces: Confined spaces regulations 1997. • Work at heights: Working @ height Regulations 2005.
c) Written Schemes: Statutory Inspections	c) Statutory written schemes are required for all pressure systems/equipment, passenger lifts, patient lifting aids & industrial/commercial lifting Statutory – Manage the commissioning of a suitably qualified and development of written scheme for high risk systems, including risk assessment for production of safety inspection schedules, status reporting and remedial action plans as required.
d) Written Systems: H&S	d) Method Statements, Risk Assessments, etc for assessing how works will be carried out and the degree of risk involved
e) Written Systems – H&S: Control book	e) Managing health and safety within the department
f) Written Systems – H&S: Datix	f) Reporting System for reporting incidents and accidents and providing information during subsequent investigations.

g) Written Systems – H&S: COSHH	g) Register for obtaining and providing advice on hazardous substances.
h) Written Systems – H&S: Asbestos	h) Survey, test & register of all ACM's on site; to comply with legal requirements.
i) Written Systems – H&S: Water Management	i) Water management risk assessment & site Register; to comply with legal requirements.
j) Written Systems –HR	j) Personal records to monitor absences, annual leave, special leave, time-keeping etc.
k) I.T. Systems: CEDAR\PCOS	k) Purchasing officer authorised to raise buying orders and receipt upon completion of works, receipt of goods
l) I.T. Systems: Computer Aided Facilities Management system (Cafm) - FMFirst	l) Schedule PPM, manage defect works & interface with FMT for management of control of infection within the built environment.
m) I.T. Systems: Building Management System (BMS)	m) Complex software based tool for managing, controlling, monitor and reporting on building service/engineering plant status and condition.
n) I.T. Systems/Manual records System	n) Document management system for managing ▪ Building plans ▪ Service schematics ▪ Manufactures Operation & Maintenance Manuals.
o) I.T. Systems: – Microsoft Packages	o) Produce reports, produce templates, produce spreadsheets etc.
p) Statutory records system	p) Including: • Fire Alarm Systems • Generator Equipment. • Boiler/ pressure vessels. • Sterilisers/washer disinfectors. • Building Maintenance Systems. • Water Treatment • Water Temperature (i.e. Legionella). • Electrical Distribution Systems for critical and non critical areas for patients and non patient care • Medical Gas systems • Portable Appliance Testing
q) Fire Alarm System Network Graphical user interface, and local sub panel user interface.	q) To manage the fire detection system during fire alert conditions (emergency) and to manage the system operation on a daily bases with respect to system statutory testing & potential site operations/works impacting on the integrity of the system. Maintain system log of all activations and operations on the system.
r) Emergency generators Programmable Logic Controller (PLC)	r) Operate menu driven PLC to monitor generator

	operating conditions during both test and emergency loss of power conditions. Maintain system log of all activations and operations on the system.

8. DECISIONS AND JUDGEMENTS

The Post holder has autonomy & freedom to act on own initiative & responsibility for :

a) Day to day management issues for *complex healthcare engineering installations,* identifying & prioritising works for direct labour & external Contractors.

b) Working within SFI's to tender, commission & procure high value services, Control and monitor, within delegated limits as set by the Sector estates Manager, the expenditure of the maintenance budget in a cost effective & efficient manner.

c) Autonomy & freedom to act on own initiative, on delegated projects, identifying & prioritising works required, preparing tender documentation, consultation with clinical & Non-clinical staff, arranging start dates and adhering to agreed time scales.

d) Develop Contingency plans for clinical & non-clinical service delivery, when planning shutdowns core building services and plant, such as electrical, MGPS &, water supplies, Heating Ventilation & Air Conditioning plant, continually reassessing the situation as Works progress, whilst being aware of time-scales & time pressures.

e) Under take risk assessment of service issues that have the potential to adversely impact on continuity of patient care & safety and assess when the issue requires escalation to senior management level.

f) Make daily judgements & decisions regarding the condition/operational status of plant & equipment, decide how best to deploy finite resources (labour, plant & materials) based on an analysis and continual review of Priorities & impact upon the service as a whole.

g) Manage human resource & staff issues, working to national PIN guidelines, Board HR Policies & procedures on a regular basis at early formal stages, in consultation with Line management & H.R. Department.

h) Must interpret complex information presented in technical drawings, plans and specifications, analysing and assessing multiple data sources to make decisions develop & implement complex solutions and action plans in order to manage issues that may affect the continued provision of core services to the hospital.

9. COMMUNICATIONS AND RELATIONSHIPS

The post-holder requires to have well-developed written & oral communication skills, to allow clear & concise communications to take place with all levels of hospital staff & external bodies, such as contractors. The post holder will explain the nature of estates activities – why the works are required, who will be affected, how the task(s) are to be carried out, the impact(s) these processes may have on the user(s) & their area(s) of responsibility.

Good tact & diplomacy skills are required, particularly when dealing with sensitive information concerning patients, e.g. delaying shutdowns because of specific patient needs, & staff, e.g. refusal of annual leave request to allow for service contingencies.

The post-holder is required to develop a close & productive working relationship with Estates Staff, both senior & subordinate in post. The post-holder will participate in forums such as departmental meetings, & core briefings, motivate subordinate staff when required. Identify & organise training as required.

The post holder must utilise extensive negotiating skills in various circumstances with Estates staff, medical staff and external contractors etc. to ensure the provision of an effective and efficient maintenance of health care

premises.

10. PHYSICAL, MENTAL, EMOTIONAL AND ENVIRONMENTAL DEMANDS OF THE JOB

Physical demands include:

Occasionally reacting to emergency situation, working in confined and uncomfortable spaces, climbing laddes ar scaffolds, working in inclement weather.

Post requires highly developed skills where accuracy is important including keyboard skills, generation of computer based spreadsheets and log sheets, operation of computer aided design and manual handling skills

Normal day to day physical demands include walking, standing, climbing and sitting for prolonged periods.

Emotional Demands

Emotionally demanding aspects of the job include pressures on times to meet conflicting demands of the pos pressures when arranging shut-downs of core services, in particular time and procedural pressures from clinical non-clinical staff, working both within & out with normal working hours in emergency situations, having to concentra for prolonged and intense periods of time when dealing with unforeseen service disruptions & being constantly awa of limitations on resources
& time when executing both day to day & extraordinary tasks.The degree of complexity involved in the post holde duties means that operational incidents which are unpredictable or have serious consequences requires a high degre of concentration and the ability to make decisions quickly and to deal with them and be confident in the decisio taken.

Mental Demands
Short time scales and competing demands during preparation of tender documentation and provision of information to external design teams/contractors. Planning and coordination of interruptions to life critical services whilst ensuring that back-up facilities are in place to minimise the disruption to the patient care. Writing safety programmes and permits to ensure the safety of individuals working on installations such as high voltage, medical gases etc and carrying the responsibility that poor decisions or judgements have the potential to result in serious injury or financial loss.

11. MOST CHALLENGING/DIFFICULT PARTS OF THE JOB

- Explaining complex technical information to non technical recipients e.g. persuading clinical and Explaining non-clinical colleagues to accept the necessity of interruptions to critical services to permit essential maintenance and testing of emergency back up systems
- Ensuring compliance with the competing requirements of a wide range of legislation and codes of practice whilst balancing finite financial and human resources, against a background of heightened expectations
- Resolving staff grievance and disciplinary issues
- Reacting quickly to emergencies and unplanned events

12, KNOWLEDGE, TRAINING AND EXPERIENCE REQUIRED TO DO THE JOB

The post-holder requires highly developed specialist knowledge across the range of work procedures and practices underpinned by theoretical knowledge and relevant practical experience, evidenced by academic qualification to Degree level in an appropriate subject with demonstrable experience of working in a healthcare or industrial/commercial building services environment, endorsed with a post graduate qualification in a supplementary discipline (e.g. Mechanical or Electrical or Building).

Ideally the post holder is required to be an incorporated engineer member of a registered Engineering or Building Institute (e.g. Chartered Institute of Building Services Engineering, Institute of Electrical Engineers, Institute of Mechanical Engineering, Institute of Healthcare Engineering and Estates Management etc.)

Highly developed technical knowledge of complex plant, equipment & services, acquired through academic development, experience & training courses & maintained through Continuous Professional Development (CPD).

Good managerial skills acquired through academic development, experience & training courses enabling post-holder to motivate, manage, direct & support staff & contractors.

Post-holder also has the ability, gained through experience to manage work priorities & emergency situations in a controlled fashion as they arise.

A good working knowledge of statutory & mandatory guidance, e.g. Health & Safety Legislation, Scottish Health Technical Memoranda, Scottish Health Building Notes, Technical Standards etc. Normally obtained through experience and by attendance and study at internal & external training courses, duration ranging from one day to one week.

A good working knowledge of local administrative procedures, e.g. Human Resources, Standing Financial Instructions, Fire safety & Response Procedures. Normally obtained through experience and by attendance and study at internal & external training courses, duration ranging from one day to one week.

Highly specialist technical knowledge for 'Authorised Person' responsibilities, specifically responsible for statutory & mandatory issues such as Medical Gases, Pressure Systems, Legionalla/Water Management, Ventilation Systems, Decontamination Services, Low and High Voltage Electrical Systems Management of asbestos, and passenger lifts and patient lifting aids.

The post holder will require to attend nationally accredited external training programmes and successfully pass assessment by examinations as well as attending structured on-site training in the workplace. In addition undergo an assessment by an independent Chartered external assessor. All of the above is supported by extended self study and continued professional development. This study must be repeated every 3 years to keep on any Professional registers.

To be selected to become an Authorised Person there is several prerequisites in relation to Low Voltage and High Voltage, the post holder is required to have:

- A high level of experience in relation to the specific knowledge.
- A formal Electrical Engineering qualification.
- To attend structured training programmes on statutory electrical wiring regulations (British Standards) and pass two written examinations.
- Been trained in emergency First Aid & CPR procedures.

Trained on a residential, intensive two week course in the operational and safety procedures that are covered in the relevant Scottish Hospital Technical Memorandums (SHTM's)

Good working knowledge of financial management processes is also required, gained through experience and attendance at meetings/seminars is required as post-holder is committing large sums of money through procurement of goods & services. Working knowledge of processes carried out by clinical & non-clinical staff & awareness of the impact that Estates processes may have on patient care, staff & visitors.

INTERNAL ADVERT

HOSPITAL ESTATES DUTY MANAGER
(FULL SHIFT) (5 Posts)

BAND 6/7 (Dependent on Degree Qualification)
NEW SOUTH GLASGOW HOSPITALS

Opportunities exist for existing staff to take on these challenging and exciting roles within the biggest hospital facility in the United Kingdom.

Theses posts will provide round the clock cover for Estates services within the new Hospitals, operating as part of a 24/7 shift system. The post holder will be responsible for the day to day operational activities of the Estates Department, for statutory & mandatory guidelines & budgetary & resource compliance, for the technical & managerial control of directly employed and specialist contract staff, and to manage minor capital projects.

You must hold a relevant degree, currently working towards, or be prepared to work towards a degree, in Electrical, Mechanical or Building Services engineering, along with appropriate management experience within a facilities management (FM) structure and significant operational experience gained within a complex building services environment.

It is desirable that the post holder has suitable experience and qualifications (minimum NC Electrical) to enable your development as Authorised Person (AP) in the following engineering specialisms:

AP Medical Piped Gas systems (MGPS)
AP High Voltage electrical Systems
AP Low Voltage Electrical Systems

You will be required to obtain in post through experience, training and life long learning, sufficient knowledge and skills in noncore disciplines to enable the post holder to fulfil the requirements of a multidisciplinary management role.

This post will involve shift working.

It will be a condition of employment that those staff working towards their degree will commence on Band 6 and must successfully complete their qualification to progress to Band 7,

Expressions of interest must be sent to Stephen Wallace, Head of HR, by Wednesday 20th August 2014 at the latest. (Stephen.wallace[redacted]

From: Stewart Ian (NATIONAL SERVICES SCOTLAND)
To: Bryden Ian (NHS DUMFRIES & GALLOWAY); Hogg Paul (NHS NATIONAL WAITING TIMES BOARD); MacLeod Torquil (NHS HIGHLAND); Chalmers, Jack; Dunn, Keith; Phil.Christie[redacted] Stirton Trevor (NHS GRAMPIAN); Bennett David (NHS TAYSIDE); Wilson Alan (NHS FIFE); Fyffe Ronald (NHS TAYSIDE)
Cc: Storrar Ian (NATIONAL SERVICES SCOTLAND); Powrie, Ian; Bisset Lawson (NHS SHETLAND); McLaughlan Edward (NATIONAL SERVICES SCOTLAND); Bisset Lawson (NHS SHETLAND); Barr Bruce (NHS HIGHLAND)
Subject: National Heating & Ventilation Advisory Group
Date: 19 August 2014 15:39:37
Attachments: SHTM 03-01 A extracts.docx

Good afternoon,

I have located a copy of the extracts from SHTM 03-01 which back up decisions taken at last week's meeting. It had been mis-filed.

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk

EXTRACTS FROM SHTM 03-01 Part A

Natural ventilation

2.2 Natural ventilation is usually created by the effects of wind pressure. It will also occur if there is a temperature difference between the inside and the outside of the building. The thermo-convective effect frequently predominates when the wind speed is low and will be enhanced if there is a difference in height between inlet and outlet openings. Ventilation induced by wind pressures can induce high air change rates through a building provided air is allowed to move freely within the space from the windward to the leeward side.

2.3 As the motivating influences of natural ventilation are variable, it is almost impossible to maintain consistent flow rates and ensure that minimum ventilation rates will be achieved at all times. **This variability is normally acceptable for general areas including office accommodation, general wards, staff areas, libraries rooms, dining rooms and similar areas which should, where possible, be provided with opening windows of a design that facilitates natural ventilation.**

2.4 Current guidance restricts the amount windows can be opened for safety reasons and as many designs are top-hung, their ability to permit natural ventilation is limited. It may therefore be necessary to provide dedicated ventilation openings in the fabric of the building to allow a sufficient natural flow of air into and out of the space. Paragraph 2.20 also refers.

2.5 In all cases, excessive heat gain, indoor air quality requirements or external noise may limit or preclude the use of natural ventilation.

Mixed mode ventilation

2.25 This comprises an assisted form of natural ventilation. Fans are fitted in the purpose made damper-controlled ventilation openings. **Alternatively a separate ventilation unit may be installed.** In both cases the dampers and fans are **controlled under the dictates of temperature and occupancy sensors to ensure a minimum air flow rate while taking advantage of natural ventilation effects when present.**

Mechanical ventilation systems

System selection

2.50 **Natural ventilation is always the preferred solution for a space**, provided that the quantity and quality of air required, and the consistency of control of ventilation to suit the requirements of the space, are achievable with this method. If this is not the case, a mechanical ventilation system will be required.

Summertime temperatures

3.27 The calculation method for determining the summertime temperature is described CIBSE Guide A (2006) Section 5. However, it is very important to select the time of day and time of year of peak loadings for the calculations. These will be dependent on the orientation and proportion of solar to total heat gain. In establishing outside design values, the design risk having regard to the function and occupancy of the building should be considered.

3.28 **Where calculations indicate that internal temperatures will frequently exceed the selected design external shade temperature by more than 3K for a period that exceeds the building design risk, methods of reducing temperature rise should be implemented.** Options include: - reducing solar and casual gains, the use of chilled beams or ceilings, increasing ventilation rates or providing mechanical cooling. In some situations it may be possible to alter the thermal mass of the structure to 'move' the peak temperature event time so that it occurs outside of the occupancy period. **Calculations and thermal modelling should be undertaken to ensure that during the summertime internal temperatures in patient areas do not exceed 28˚C dry bulb for more than 50 hours per year.** It has been found that there is a relationship between preferred indoor temperatures and mean outside temperature. Fig A2 in CIBSE Guide A indicates this relationship.

(Air handling units)

4.5 **It is essential that air-handling units are positioned so that all parts are easily and safely accessible for routine inspection and service.** If a unit is located against a wall or backs onto another unit then access to all parts must be available from the front. Units greater than 1 metre wide should preferably have access from both sides or access doors large enough to permit the full and safe entry of maintenance personnel.

4.10 **It is essential that the main plant/ductwork is located far enough above the floor to permit the correct installation of drainage systems for cooling coils, humidifiers and heat recovery systems. Easy access for maintenance of drainage systems and their associated pipework must be provided.**

Appendix 1: Recommended air-change rates

Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
General ward	S / N	6	-	G4	30	18-28	
Communal ward toilet	E	10	-ve	-	40	-	
Single room	S / E / N	6	0 or –ve	G4	30	18-28	
Single room WC	E	3	-ve	-	40	-	
Clean utility	S	6	+ve	G4	40	18-28	
Dirty utility	E	6	-ve	-	40	-	
Ward Isolation room	-	-	-	-	-	-	See SHPN 4; Supplement 1
Infectious disease Iso room	E	10	-5	G4	30	18-28	Extract filtration may be required
Neutropenic patient ward	S	10	+10	H12	30	18-28	
Critical Care Areas	S	10	+10	F7	30	*18-25*	Isolation room may be –ve press
Birthing Room	S & E	15	-ve	G4	40	*18-25*	Provide clean air-flow path
SCBU	S	6	+ve	F7	30	*18-25*	Isolation room may be –ve press
Preparation room (Lay-up)	S	>25	35	F7*	40	*18-25*	*H12 if a lay-up for a UCV Theatre
Preparation room / bay sterile pack store	S	10	25	F7	40	*18-25*	*50NR if a bay in a UCV Theatre
Operating theatre	S	25	25	F7	40	*18-25*	
UCV Operating theatre	S	25*	25	H12	40	*18-25*	Fresh air rate; excludes re-circulation
Anaesthetic room	S & E	15	>10	F7	40	*18-25*	Provide clean air-flow path
Theatre Sluice/dirty utility	E	>20	-5	-	40	-	
Recovery room	S & E	15	0	F7	35	*18-25*	Provide clean air-flow path

Table A1

Application	Ventilation	ac/Hour	Pressure (Pascals)	Supply Filter	Noise (NR)	Temp (°C)	Comments For further information see Section 6
Recovery room	S & E	15	0	F7	35	*18-25*	Provide clean air-flow path
Cardiac catheterisation lab	S	15	+ve	F7	40	*18-22*	
Endoscopy room	S	15	+ve	F7	40	*18-25*	
Endoscopy cleaning	E	>10	-ve	-	40	-	
Day case theatre	S	15	+ve	F7	40	*18-25*	
Treatment room	S	10	+ve	F7	35	*18-25*	
Pharmacy aseptic suite	S	20	#	H14	-	*18-22*	# See EGGMP (Orange guide) a
Cat 3 or 4 containment room	#	>20	#	H14*	-	*18-22*	# See ACDP guide; *Filter in extract
Post mortem room	S & E	S = 10 E = 12	-ve	G4	35	*18–22*	Provide clean air-flow path
Specimen store	E	-	-ve	-	-	-	Fan accessible from outside of store

Table A1 continued

Notes: 18˚C-22˚C indicates the range over which the temperature may float

18˚C-22˚C indicates the range over which the temperature should be capable of being controlled

S = supply N = natural ventilation

E = extract [a] – European guidelines on good manufacturing practice published by the Medicines and Healthcare products Regulatory Authority (MHRA)

Extract ventilation systems

2.6 **Separate extract ventilation will be required for sanitary facilities, lavage areas, dirty utilities and in rooms where odorous, but non-toxic fumes are likely, in order to ensure air movement into the space**. 10 air changes per hour have been found necessary, particularly in geriatric and psychogeriatric accommodation. This will assist with infection control procedures. A single fan/motor unit can be suitable for individual rooms, but multi-room systems should be provided with duty and standby fans or motors to meet this need.

From: Stewart Ian (NATIONAL SERVICES SCOTLAND)
To: Bryden Ian (NHS DUMFRIES & GALLOWAY); Phil.Christie[redacted]; Stirton Trevor (NHS GRAMPIAN); Bennett David (NHS TAYSIDE); MacLeod Torquil (NHS HIGHLAND); Wilson Alan (NHS FIFE); Hogg Paul (NHS NATIONAL WAITING TIMES BOARD); Fyffe Ronald (NHS TAYSIDE); Chalmers, Jack; Dunn, Keith
Cc: McLaughlan Edward (NATIONAL SERVICES SCOTLAND); Powrie, Ian; Storrar Ian (NATIONAL SERVICES SCOTLAND); Barr Bruce (NHS HIGHLAND); Bisset Lawson (NHS SHETLAND)
Subject: National H&V Advisory Group
Date: 19 August 2014 15:06:20
Attachments: Handover checklist ventilation.(rev).doc

Good afternoon all,

Further to last week's meeting of the Group I now attach the Handover Checklist for Ventilation incorporating the agreed modifications. I have left the track changes feature active so that you can see what was done.

If it is agreed with SETAG, on 21st August, that this is acceptable, I will ensure that steps are taken to incorporate this information as a further Appendix to SHTM 03-01 as discussed at our meeting.

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk

Activity	Yes	No	N/A	Remarks
Design				
Balancing & commissioning dampers provided in adequate numbers? aAnd correctly positioned in relation oft ductwork fittings etc?				Before this stage should there not be a check on design team competence at interview prior to appointment?
Are balancing & commissioning dampers arranged to be accessible?				
Are all fire/smoke dampers accessible for inspection and replacement?? (i.e. without having to remove adjacent services)				Access for maintenance to damper actuators, can dampers be removed and replaced without having to remove adjacent services e.g. access fouled by pipework
Are test positions accessible?				
Are sufficient duct access panels provided for internal cleaning?				
Are duct access panels for inspection and cleaning capable of being removed?				Can cleaning devices be easily used; Drain trays for duct mounted coils?
Can cleaning devices be easily used?				
Have drain trays been provided for duct-mounted coils?				
Has the commissioning specialist been provided with information as set out in SHTM 03-01 Part A?				What about control systems, pressure cascades, Filtration levels appropriate for areas served, departments served theatres very different from ward areas
Pre-commissioning activities				
Visual inspection carried out?				Duct cleanliness in line with standards, date stamped video record
Installation accords with specification and drawings? For example: drain traps installed, correct materials used, traps of adequate depth on both suction and discharge side.				Drain traps installed, correct materials used traps of adequate depth on both suction and discharge side
Approved sealants employed?				
All components functioning correctly?				
Access doors and viewing ports sealed satisfactorily?				
Air leakage tests completed prior to insulation being applied?				
Air leakage tests records provided?				
Test holes sealed with grommets?				
Control damper quadrants fitted correctly and commissioned position marked?				Commissioned position marked

Style Definition: Table text

Interlocks operating as specified?				
All electrical circuitry complete, tested and energised? (including AHU internal lighting functioning).				~~Internal lighting to AHUS functioning~~
Rotation of motors checked?				
Did the designer provide the commissioning specialist with full commissioning data (SHTM 03-01 Part A?) (Specification, Schematics, Equipment schedules & control devices, fan curves, wiring diagrams and user brief)				
AHU components & controls functioning correctly?				
AHU interlocks & safety controls functioning correctly? (For example: connection to fire system proved, fire/smoke dampers functioning as per cause and effect schedule).				~~Connection to fire system proved; fire / smoke dampers functioning as cause and effect schedule~~
Plant and ductwork physically complete and identified?				
Access to all plant safe & satisfactory?				
All ventilation ducting internally clean?				
Activity	Yes	No	N/A	Remarks
Have filters been installed correctly?				
Have filter seals been fitted and in good condition?				
Have primary & secondary filters' test certificates been provided?				
Have builderwork duct surfaces been sealed to prevent dust?				
Have HEPA filters test certificates been provided?				
Have HEPA filters been correctly sealed in purpose-made housings?				
Have air intakes been cleared of vegetation, waste and rubbish?				
Have fan performance test certificates been provided?				
Have coils test certificates been provided?				
Have attenuators test certificates been provided?				
Can drain trays be easily removed?				
Can drain traps be easily removed?				
Have drain traps been fitted correctly with 15mm air gap?				
Is connecting pipework adequately supported?				

Commissioning				
Have test instruments' calibration certificates been provided?				
Have filter manometers been checked and certified for accuracy?				
Heater batteries connections have correct temperatures, pressures and volume flows?				
Cooling coils connections have correct temperatures, pressures and volume flows?				
Were commissioning activities carried out in clean conditions?				
Were summer / winter design conditions simulated as part of the commissioning process?				~~functional load tests to be carried out as part of the project specifcationspecification~~
Were thermo-hygrograph monitoring devices installed?				
Has independent validation of critical systems been carried out (e.g. UCV plant)?				
Has all commissioning data been provided including direct comparisons between performance and design, including acoustic tests?				~~Acoustic tests~~
Activity	Yes	No	N/A	Remarks
Were the required standards achieved?				
Has commissioning of automatic controls / BMS been completed by specialist supplier?				
Was automatic controls / BMS commissioning witnessed? (Invertors not to exceed 50Hz).				~~Invertors not to exceed 50Hz~~
Were control and monitoring sensors checked for accuracy?				
Was monitoring the functions of remote panels completed satisfactorily? (Graphics proved to reflect what is happening: existing graphics updated).				~~Graphics proved to reflect what is happening: existing graphics updated~~
Were correct airflow patterns in theatre suites achieved with satisfactory results related to pressure cascades in line with design?				~~Slit plate tests carried out , micro-bacterial checks carried out and results satisfactory pressure cascades in line with design~~
Have all risk assessments been completed with no residual risks remaining?				

Formatted: Font: 10 pt

Formatted: Font: 10 pt

From:	Gallacher, Alan
To:	Dunn, Keith; McQuade, James; Mclean, Ken; Cleaver, Don; Glass, Bill; Fulton, Tom; MacKinnon, Bruce; Forrest, Colin; Kidd, Alan; Smith, Euan; McFall, Phil; Campbell, Andrew; Wilson, Iain; Morrison, Patrick; Menzies, John; Shaw, David; McFadden, Jim; Powrie, Ian; Brattey, David; McCormack, Bill; Purdon, Colin; Morrison, Edward
Cc:	Kane, Mary Anne; Hunter, William; Pace, David; Maclean, Alistair; Stewart, Alan; Joannidis, Pamela; Williams, Craig; Green, John
Subject:	RE: GG&C Authorising Engineer (AE) Services
Date:	31 August 2014 15:10:18
Attachments:	image001.jpg

All,

For your information Legionella Control have been appointed as the provider of Authorising Engineer (AE) services for Water Safety for GG&C for a 3 year period starting 1st September 2014. They have been tasked to pull together a list of initial site visits and once I have received this I will forward onto yourselves.

Can you please ensure this information is passed on to the relevant managers who oversee water within their remit.

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Inverclyde Royal Hospital
Education Centre Rm 1.03
Larkfield Road
Greenock
PA16 0XN

[redacted]

[redacted]

New South Glasgow Hospitals

Summary of the Energy and Metering Issues August 2014

Executive Summary

From an early stage in the procurement of the New Southern General Hospital and New Labs it has been the aim of NHSGGC to procure a low carbon energy efficient development.

Ecoteric have been employed by the Board to assess and assist in developing and implementing the strategy and this report summarises the position of the development towards the end of the construction period of the Adults and Children's Hospitals and after 2 years of operation of the Labs.

The Employers' Requirements which have driven the design of the New Southern General Hospital in terms of achieving a low carbon outcome have been monitored throughout the design and construction period by regular evaluation of the calculated energy model and the design and procurement has been tested against this model.

This report summarises the process, the energy model outcome and outstanding issues which need to be addressed.

As it stands in version B of the TUV SUD Wallace Whittle Carbon Report – Stage 3 Final Design & Procurement ZBP-XX-XX-DC-600-38,

- The model developed for the Adult and Children's Hospital is 77.35kgCO2/m2/year.
- This model does not currently encompass the laboratories building. This was designed prior to the appointment of Ecoteric and a less detailed model undertaken. It was therefore agreed that the actual energy consumption of the labs would be used to integrate the two buildings in terms of assessing the final energy and carbon emissions.
- When the labs actual energy consumption is included, as discussed in following sections, the total predicted operational consumption is **82 kgCO2/m2/year**,
- The above figure assumes a total area of the labs of 25,000m^2, and does not include the area of the energy centre.
- The other parameters of the Employer's Requirements have been met which are EPC Scotland B (28) and EPC England and Wales (for the purposes of the BREEAM score) A (23)
- Compliance with the NHS targets of 55GJ/100m^3 per annum are not confirmed in the above report, but were in previous versions for example, version 3.2, which stated that "the energy model is currently showing the building's energy consumption at 40.2 GJ/100m3/year and the CO2 emissions at 78.8 kgCO2/m2/year". It can therefore be safely assumed that the NHS target has been bettered.

There have been issues with the ability to derive reliable readings from the metering system which reports to the Schneider electronic platform know as the ERM system. Meters have been replaced and all meters have been reading to the system from April 2014, but there are still reconciliation issues as detailed in this report. In conclusion, there are still issue which need to be resolved to enable the operational energy target to be proved.

There is a current proposal to use the updated Schneider EO system to monitor the meters and this system certainly improves the functionality of the software. However, proof of accuracy and reliability of the supporting network of meters and IT interfaces is still essential before the metering system and its monitoring software is accepted by the Board.

Data in 2013 showed the labs well in excess of predicted energy consumption and affecting the overall target, raising it to 84kgCO2/m^2. This has now reduced to 82 kgCO2/m2/year. Comparable energy consumption is as follows:

	Labs actual energy consumption for 12 months September 2012-August 2013 from ERM kWh	**Labs actual energy consumption for 12 months July 2013-July 2014 from ERM** kWh
Fossil Fuel	5,850,429	4,237,221
Electrical	4,844,133	4,580,605
Total	10,694,562	8,817,826

The energy consumption has improved since 2012-2013 particularly the gas, but more recent figures show a rising trend in consumption and this needs investigation to prevent the overall target being further affected.

The major variances from predicted energy consumption are the heating and cooling. Gas energy use remains excessive. Further analysis and audit of the labs building is required.

There are still problems with the metering with large discrepancies in gas readings and moderate discrepancies in electrical metering. Further action and investigation is needed.

All previous comments made by Ecoteric on the TUV SUD Energy Model report have been addressed in the current version, with the exception of the inclusion of the Labs Energy Consumption which has been a consistent issue and which TUV SUD (Wallace Whittle) formerly ZBP have declined to address. This report (by Ecoteric) includes data which addresses this shortfall; however, the ultimate responsibility for addressing this shortfall remains with Brookfield Multiplex.

In conclusion:-

- the Adults and Children's Hospital model meets the target in isolation
- the overall development when the labs are included does not currently show compliance, however;
- it is acknowledged that there have been changes to operating hours and operating conditions in the labs which affect the energy consumption
- There is scope for energy reduction in the labs
- There are ongoing issues with the accuracy of metering which needs attention

Action and further discussion is needed which should be the subject of the September low carbon meeting.

1. Intent of the process

During the design development of the new hospital facilities, it was the clear intention of the Board team to deliver a sustainable and energy efficient facility. This was in line with the intent of the Scottish Government and the directives of the NHS, and Health facilities Scotland. From this point, the key objectives in terms of carbon, energy and sustainability were developed with the board advisory team and Employers Requirements were developed to be used as the basis of the competitive dialogue and the design.

2. Carbon Trust Support

The Carbon Trust was approached for assistance and guidance and placed a consultant, Susan Logan of Ecoteric Ltd. with the scheme from the time when the exemplar design was being developed and the Board advisory team appointed. Throughout the procurement and design process, the Carbon Trust part funded Susan's fees and funded discrete additional pieces of work such at the labs metering strategy and a study on the viability of waste heat to the whole site. The Board has in the past and continues to fund the remainder of Susan's input.

3. Key Features of the Employers' requirements

The key tenets of the Employers requirements are:

- A design energy target equating to A Scottish EPC B and England and Wales and Asset rating of 40
- BREEAM Excellent
- The operational energy target of 80kgCO2/m^2 per annum as measured at the incoming energy meters to the energy centre and taking into account the emissions from the actual performance of any CHP plant which may be installed when calculating and measuring electrical consumption.
- Incorporate a resource efficient design; including at least 10% recycled content

Emphasis was placed on the continuity of the process throughout design and construction and on the importance of these issues to the Board. The tenderers were instructed that the energy and sustainability had to form a fundamental keystone of the contractor's proposals and are significantly influenced by the Building Design Solution.

Within the sustainability section of the ER's, there is design guidance and sub targets intended to steer the design team, whilst not intending to be an absolutely prescriptive specification. The main issue is that the targets are met and the detail sections are stepping stones and check points to get to the target.

4. Procurement Process

At the tender stage, the low carbon design tracker was introduced as the key management tool for the process.

The sustainability and low carbon designs were fundamental to the design quality evaluation of the project and bids were scored significantly on these aspects.

Of the three bidders who took part in the competitive dialogue and who returned submissions, the highest scoring bid in the energy and sustainability section was Brookfield Multiplex. They exhibited a willingness and ability to work with the targets set within the employers requirements and to balance the demands of the targets with the other critical design and budget constraints.

5. Process through design and construction

The contractor was required to implement fully an integrated approach to low carbon design. In summary this is as follows:

- Project plans to include requirements for low carbon design, energy targets and auditing at key stages.
- Set and record a design and operational energy target
- Undertake calculation and modelling of the target at key stages
- Cooperate with monitoring and review mechanisms for the design and operational energy target
- Use a design monitoring tool such as a tracker to ensure the brief is being adopted.

Formal reporting on the energy targets was required at the following key points

- Façade development and 1:100 layouts
- Early detail design/ full business case: once the façade is set and layouts are reasonably agreed, the full model should be built.
- Late detail design: the contractor must confirm through revision to the above model that the design meets the design and operational energy targets
- Late construction – the as built model should be produced which will provide the final EPC and the operational target confirmed based on actual equipping.

At each of the above reporting stages, a check on the operational energy target was required. We are now at the stage where the late design stage model has been completed.

The BREEAM assessment has achieved “Excellent” at Design stage and Brookfield are in the process of gathering information for the Post Construction Review which is necessary to confirm the rating.

At each stage, the reports have been reviewed and where possible and necessary, changes made to improve the model.

6. Gains during the Process

The involvement of Ecoteric has kept the energy and sustainability issues within the mainstream agendas of the design and procurement process. Through the mechanism of the tracker and the low carbon meetings, there has been a forum to challenge and debate the design and to promote more efficient design. Notable gains include:

- Review and improvement of cladding U values
- Efficient glazing selection, maximising heat retention on northern facades whilst optimising for reduction of heat gain on other facades
- Whole life cost approach to major plant and equipment selection
- Extensive use of lighting controls
- Changes to ventilation heat recovery to use most efficient methods
- Improvements to metering strategy
- Studies promoting the viability of waste energy connection for the site.

Future and current issues under debate are:

- Evaluating the controls proposals and controls commissioning to maximise efficiency
- Working with the proposed contractor's energy manager and the estates team to make sure that the staff has confidence in the metering system
- Working with the estates team to promote understanding of the energy issues and design intent
- The current status of the model as described below

7. Whole Life Costing Approach

An overall whole life cost model was prepared at tender stage for the whole building but in addition to this, component level whole life evaluation was required.

It was established that this would apply to major building services plant.

The methodology used was a tool produced by Forum for the Future. This was intended to capture capital cost, maintenance costs, consumables, utility costs and end of life costs.

It was agreed that Mercury Engineering would tender to a long list of suppliers but obtain the whole life information from the three lowest who met the performance standards for the equipment and that this would be presented to the Board.

The responses and standard of information returned was patchy and at times difficult to compare therefore the process was simplified to encompass capital, maintenance and utilities only. Nonetheless, the process resulted in the selection of:

Chillers: Not the lowest first cost of plant, but lower energy costs due to better efficiency.

Boilers: Lowest first cost but very similar operational costs between the lowest 3 and best control options.

Pumps: Pumps with best operational characteristics in terms of turn down and high efficiency motors.

UPS: lowest first cost and lowest operating cost.

Air Handling Units: detailed consideration of fan types and incorporation of more efficient direct drive where acceptable from a clinical point of view, choice of more energy efficient filter supplier

CHP Units: detailed evaluation of the maintenance costs and utility costs as these far outweigh the capital cost over the life of the plant. The supplier chosen did offer the lowest first cost but also the lowest maintenance cost and the most efficient plant.

Other items were not evaluated in detail but were found to be best practice in terms of energy efficiency – for example, transformers and the children's hospital TV system. A review of catering equipment was undertaken and where available, efficient equipment was selected.

8. The current status of the energy model

As it stands in version B of the TUV SUD Wallace Whittle Carbon Report – Stage 3 Final Design & Procurement ZBP-XX-XX-DC-600-38,

- The model developed for the Adult and Children's Hospital is 77.35kgCO2/m2/year.
- This model does not currently encompass the laboratories building. This was designed prior to the appointment of Ecoteric and a less detailed model undertaken. It was therefore agreed that the actual energy consumption of the labs would be used to integrate the two buildings in terms of assessing the final energy and carbon emissions.
- When the labs actual energy consumption is included, as discussed in following sections, the total predicted operational consumption is 82 kgCO2/m2/year, assuming total area of the labs of 25,000m^2, and not including the area of the energy centre.
- The other parameters of the Employer's Requirements have been met which are EPC Scotland B (28) and EPC England and Wales (for the purposes of the BREEAM score) A (23)
- Compliance with the NHS targets of 55GJ/100m^3 per annum are not confirmed in the above report, but were in previous versions for example, version 3.2, which stated that "the energy model is currently showing the building's energy consumption at 40.2 GJ/100m3/year and the CO2 emissions at 78.8 kgCO2/m2/year". It can therefore be safely assumed that the NHS target has been bettered.

9. Labs Energy Usage

It has been difficult to obtain clean data for the labs owing to meter software issues. This was the subject of a report undertaken by Ecoteric at the start of 2013. Data at that time obtained from fiscal meters showed the labs well in excess of predicted energy consumption and affecting the overall target, raising it to 84kgCO2/m^2. This has now reduced to 82 kgCO2/m2/year. The meters have been reading more reliably since April 2014 but there was a complete loss of data as described below and therefore in determining 12 months data for the labs to arrive at the 82 kgCO2/m2/year given above, pro-rata figures were used for these three months.

Comparable energy consumption is as follows:

	Labs actual energy consumption for 12 months September 2012-August 2013 from ERM kWh	**Labs actual energy consumption for 12 months July 2013-July 2014 from ERM** kWh
Fossil Fuel	5,850,429	4,237,221
Electrical	4,844,133	4,580,605
Total	10,694,562	8,817,826

However, there were known issues relating to overheat and additional equipment. Measures to address overheat were installed.

The energy consumption has improved since 2012-2013 particularly the gas, but more recent figures show a rising trend in consumption and this needs investigation to prevent the overall target being affected.

The current consumption for the various end uses are summarised below:

Electrical

	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual	Predicted	Actual
	total chillers and heat rejection	total chillers and heat rejection	fans and pumps kWh	fans and pumps kWh	Artificial Lighting kWh	Artificial Lighting kWh	Equipment kWh	Equipment kWh	TOTAL ELECTRICAL LOAD	TOTAL ELECTRICAL LOAD
TOTALS kWh	87,000	477,015	724,000	770,311	823,000	767,184	1,672,000	1,505,088	3,306,000	3,519,599

Gas

	Predicted	Actual
TOTALS kWh	1,864,000	3,918,073

From the above, the major variances are clearly the heating and cooling.

The cooling energy use appears to indicate that use of free cooling from outside air is not the primary source of cooling and that the chilled beams are consuming a lot more energy than predicted. Overheat problems were identified and systems were being used 24 hours per day but this has now been resolved. More equipment than envisaged was installed, although the net resultant energy use of equipment is less than predicted.

Gas energy use remains excessive. Gas boilers are consuming substantial amounts of energy at weekends, overnight and in summer. This is likely to be primarily due to controls rather than usage and needs further investigation.

At this time, uplift of the target is not quantifiable but will be kept under review.

Although lighting is not exceeding the predicted energy consumption, there are considered to be opportunities for lighting energy reduction.

Further analysis and audit of the labs building is required.

10. Metering Issues

There have been issues with the ability to derive reliable readings from the metering system which reports to the Schneider electronic platform know as the ERM system. Meters have been replaced and all meters have been reading to the system from April 2014, but there are still reconciliation issues as detailed below. There was a complete loss of data for 3 months. In conclusion, there are still issue which need to be resolved to enable the operational energy target to be proved.

There is a current proposal to use the updated Schneider EO system to monitor the meters and this system certainly improves the functionality of the software. However, proof of accuracy and reliability of the supporting network of meters and IT interfaces is still essential before the metering system and its monitoring software is accepted by the Board.

Gas Meters – Labs

After investigation and taking of some manual readings there remain unresolved issues with labs gas metering. The conclusions are:-

- Manual readings from the labs gas boilers correlate well with the individual boiler meter readings from the ERM system (2.44% variance overall)
- The summation of the labs gas boiler meter readings from ERM matches a manual summation of the individual boiler readings from ERM
- The main labs gas boiler meter reading is half the sum of the boiler readings for a small study period of 9/7/14-1/8/14 i.e. 100% variance
- This variance is not consistent. The overall variance on the ERM between the main labs gas meter and the summation of the boiler meters for all readings is 400% but this is unreliable due to the difficulties with the meters reading to the ERM.
- However, if we consider just the period from April where it was reported that all meters were reading to ERM correctly, we can see that the variance has ranged from 160% to over 200%.
- The conclusion for this is that the main gas meter to the labs appears to be unreliable and cannot be used for meaningful record of gas consumption.
- It is not impossible that the individual boiler meters are highly variable, but it would be expected that this would amount to no more than one or two “rogue” meters and this has not been observed on the ERM nor would this cause this level of variance.
- The individual gas meters do seem to be reliable and the summation of these can be used to determine the heating gas consumption.
- There is therefore have no means of determining the labs process gas consumption but this is not considered to be particularly significant.

Gas Meters – Main

In terms of the reconciliation of the boiler readings to the fiscal readings, there is again a major discrepancy. This is currently in the Board’s favour if the individual gas meters are to be believed but does not help establish accurate energy use and could give rise to dispute when the hospitals are operational.

Gas Meters – Conclusion

It is likely that independent field testing of a proportion of the sub meters is required as a first step, and potentially accuracy testing by the supplier of the fiscal meter.

Electrical Meters – Labs

Further variances were found in electrical metering. Generally electrical metering has been found to be reasonably accurate and has read more reliably to the ERM. However, this variance is outside tolerance and needs to be investigated. It is possible that some sub meters are not reading to the system or that the summation is not correct.

Comparison total summated electrical meters and main board meters April –June 2014

meter description	Total Consumption kWh
Combined Lighting & Power Boards	34,184
IT and Comms Electrical Load	25,524
Lighting Electrical Load	209,248
Major Equipment Electrical Load	119,528
Small Power and Equipment Electrical Load	262,295
HVAC Electrical Load	226,202
Whole Building Cooling Electrical Load	118,742
Total	995,724

Whole Building Electrical Load April –June 2014

Reading Date	Total Consumption kWh
April 2014	391,335
May 2014	405,684
June 2014	414,881
	1,211,900
Variance	216,175.76

There is no data as yet on the main hospitals or energy centre metering as these are still being commissioned.

11. Operational Energy Issues

Within the employer's requirements, provisions were made for a continuing involvement by the main contractor to:

- Undertake training and awareness of energy issues relating to the building shall be given by the contractor to the building users and the maintenance staff

- Operational energy shall be measured and reported for every 3 months for 3 years from occupation of the building by the contractor with weather normalisation undertaken by reference to an agreed thermal model containing actual weather data for the year in question.

- Should operational energy be found to exceed predicted operational energy, then investigation and remedial action will be required to be undertaken by the contractor

- Employ an energy manager to the project – this was originally for three 3 years but it is understood that this was reduced to 2 years during the tender negotiations to align with the defects period.

These activities are considered as vital to the transition from the construction contract to the operational phase and to prove in operation that the energy targets have been met. An independent overview from Ecoteric would be valuable in this process, as it has been in the past.

12. Adjustment to the target

The intention is that the hospital and labs achieve the operational target. However, circumstances may change due to longer operational hours, more equipment than expected, severe weather and there needs to be a mechanism to uplift the target in these circumstances.

It is possible that the systems and buildings do not perform as expected and that the target is exceeded and there also needs to be a mechanism for corrective action.

Both of these instances were negotiated at tender stage and in the early design stages and the outcome is recorded and appended to this report.

In both instances, there will be a need for collection of relevant data, evaluation of the circumstances and if not readily resolved, advice on the best course of action.

The current energy consumption of the labs was used to evaluate whether there was a justification for uplift of the target at present but as described, this is not considered to be appropriate at this time and investigation and rectification of heating and cooling controls is recommended.

13. Review of the Energy Report and discharge of comments

All previous comments made by Ecoteric on the TUV SUD Energy Model report have been addressed in the current version, with the exception of the inclusion of the Labs Energy Consumption which has been a consistent issue and which TUV SUD (Wallace Whittle) formerly ZBP have dedclined to address. This report (by Ecoteric) includes data which addresses this shortfall, however, the ultimate responsibility for addressing this shortfall remains with Brookfield Multiplex.

The objectives of the review were overall to determine if the energy targets set in the Employer's Requirements look likely to be met. To do this it was necessary to determine that:

1. The methodology meets the intent and detail of the Employer's Requirements
2. The assumptions made are reasonable and reproducible in practice
3. The calculations are, as far as can be determined, as accurate as possible
4. That the levels of risk and uncertainty are clearly identified and are acceptable
5. The results indicate that the building will meet the operational energy target

14. Summary of report

1. **Objective 1 The methodology meets the intent and detail of the Employer's Requirements**

The model does not meet the Employer's requirements as it is not fully dynamic, however, the methodology was accepted and agreed as fully dynamic modelling of complex building services systems was beyond available technology for this size of scheme. The modelling is therefore a hybrid of dynamic building modelling and Excel spreadsheets for systems.

2. **Objective 2 the assumptions made are reasonable and reproducible in practice**

The assumptions are generally acceptable.

3. **Objective 3 The calculations are, as far as can be determined, as accurate as possible at this stage in the design**

The accuracy has improved and is believed to reflect the as built status, with systems correctly allocated to rooms. The internal layouts may have deviated from the geometry of the model, but it was agreed that this was unlikely to be significant in terms of the results. The model will be modified when the results of the air test are known.

4. **Objective 4 The level of risk and uncertainty is acceptable**

Risk and uncertainty has been addressed and the significance identified

These key factors include sensitivity testing. The most significant risks reside with equipment and usage

5. **Objective 5 The results indicate that the building will meet the operational energy target**

The results are highly marginal and are affected by the Labs consumption and potentially metering accuracy. Consistent review and management is needed. The results show that as far as can be predicted, the development is currently not meeting the operational target of 80kg/CO_2/m^2/annum when the Labs are included and that action is needed to reduce the energy consumption in the Labs.

15. Conclusions

In conclusion:-

- the Adults and Children's Hospital model meets the target in isolation
- the overall development when the labs are included does not currently show compliance, however;
- it is acknowledged that there have been changes to operating hours and operating conditions in the labs which affect the energy consumption
- There is scope for energy reduction in the labs
- There are ongoing issues with the accuracy of metering which needs attention

Action and further discussion is needed which should be the subject of the low carbon meetings.

New Southern General Hospital Low Carbon Tracker

25th Contract Issue Meeting of 13/5/14 General information and Documents – to be read in conjunction with Appendix M&E4 and Section 1000 of ERs								
FORWARD MEETING SCHEDULE								
	12/3/14 Note changed date	13/5/14 note revised date	2/7/14	3/9/14	5/11/14	14/1/15	Project handover	
MEETING PURPOSE	ERM review	Tracker review and follow up ERM review	Tracker review + working session to review the metering structure	Tracker review + site visit to review controls set up and commissioning	Tracker review + site visit to review energy centre set up and commissioning	Tracker review		
ATTENDEES	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan, Alan Andersen, suitable representatives from Schneider (controls) and Schneider (ERM)	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan, Alan Andersen, suitable representatives from Schneider (controls) and Schneider (ERM)	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan, Alan Andersen, suitable representatives from Schneider (controls)	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan	David Wilson , Ken Hall, David Hall, Ian Powrie, John Keenan, Susan Logan	
Circulation Brookfield Multiplex Ken Hall Darren Pike, Darren Smith, David Wilson Currie & Brown David Hall Glasgow NHS Board Shiona Frew, Peter Moir, David Loudon, Ian Powrie Mercury Engineering (Ireland) Brendan Rooney, Brendan Coffey Nightingale Associates : John Wiggett WW Steve Pardy								
SECTION 1 EARLY DESIGN ISSUES								
Early design issues now closed off Refer to seventh contract issue tracker for record of actions								
SECTION 2 STAGE C-D DESIGN to FBC MAIN and CHILDRENS HOSPITALS								
Stage C_D design issues now closed off Refer to eighth contract issue tracker for record of actions								
SECTION 3 FBC APPROVAL TO END OF DESIGN PHASE MAIN and CHILDRENS –								
All design issues now closed off. Refer to eighteenth contract issue tracker for record of actions. Any unresolved matters carried forward to construction phase								

SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
RDD	List of RDD	BM		Outstanding from design phase	Review of summary report See tracker 24 for issues	Issue 7 now addresses all issues	BM/Mercury	1
METERING								
Energy sub metering		WW/ NHSG GC	Sub Metering strategy to ERM to be provided	Outstanding from design phase	Agree detail of how metering will monitor and report	See minutes of meeting of 25/6/14		
		BM/DW	ERM system glitches and usability	ongoing	Need to liaise with Schneider to iron out issues encountered with the ERM system on the labs to avoid carryover onto the main scheme :- • IP drop outs causing spikes in recorded readings • Fairly slow load up times • Geographic representation of zones • Usability issues such as having to tell the system what type of utility is being measured and whether the meter is a utility or sub meter – the system should be able to pick this up automatically	See minutes of meeting of 25/6/14	DW	2
		BM	Fiscal Metering reading to ERM	ongoing	Arrangements to link an output from the fiscal meters (gas, each water supply and each electrical supply) to the RM system needs to be made. Earlier attempts to link via the existing site system seem to have been unsuccessful and it is therefore preferred that direct connections are arranged	Update on progress awaited. Agreed that the ERM should be capable of export to the TEAM sigma system. IP/DW to progress with John Keenan. See minutes of meeting of 12/3/14	IP/DW	2
	ERM system - labs	BM	Ongoing issues with ability to derive consumption	Ongoing from March 2012	Current issues still unresolved – recently "snapshot" check for period 1/9/2012-1/9/2013 • Gas readings - gas consumption, gas boilers (main heading) and mains gas all returning zero reading for period 1/9/2012-1/9/2013, boilers reading some consumption but much less than expected when compared to zonal heating loads • System slow and regularly crashes when loading reports (even on BT infinity connection) • Zonal cooling load not showing any reliable data	Agreed that BM- DW would supply full years data – some issued, but 12 months data not available for all meters. See minutes of meeting of 12/3/14 **Agreed that ALL meters must be reading reliably to ERM by 7/3/14 – not achieved therefore new agreed date is 12/4/14**	DW	1

ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
					• DHWS not showing any reliable data • Mains water readings are patchy			
		BM/C&B	Validation of CHP	Before CHP support tender is issued.	IP raised issues of monitoring of CHP quality index and heat balance. Discussed and provision has been integrated into metering strategy, but need to resolve if this is better reported from the CHP manufacturers telemetry and reporting systems or ERM - to be further discussed and provision included in tender for CHP support package.	It was noted that Edina provide data but the CHP owner has to make the application to demonstrate the CHP QI and that legal advice is currently being taken on the single action tender issues before the contract can be place with Edina for the CHP maintenance. See minutes of meeting of 12/3/14	IP/DH	2
		BM	Metering of CHP	Before CHP support tender is issued.	Check that meters are included for each CHP for gas, useful electrical output, useful heat output and dumped heat (requirement included in metering strategy issued 9/7/13)	Still uncertain. To be confirmed ay the meeting between SE and Edina See minutes of meeting of 12/3/14	MEL	2
MECHANICAL SYSTEMS AND BMS								
For resolved general actions see tracker 24								
Hydrotherapy pool		BM/WW	Scheme no in line with SHTM 03-01 and not efficient in energy terms		The scheme is not generally in line with the SHTM which states that " a re-circulation plant is recommended, with a minimum of 20% fresh air" .This would be much more efficient than the full fresh air plant shown on the schematic. The run around coil should still be included.	Revised Energy calculation received from WW but capital cost requested to establish if there is a whole life benefit. Noted however that the unit has been ordered and that it is unlikely to be changed and that the decision to deviate from the recommendations of the SHTM was primarily capital cost driven WW have supplied energy calculations but capital cost comparison of compliant/proposed unit needs to be confirmed by MEL to justify decision.	BM/MEL	1
For resolved actions re aseptic and hydrotherapy see tracker 24								
LIGHTING AND ELECTRICAL								
For resolved actions re lighting see tracker 24	Lighting General							

SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
	Lighting Load comparison sheet	WW	Report states "The overall Whitecroft design lighting load is slightly higher than used in the Stage 3 Energy Model. However, due to the photometric characteristics of the individual luminaires, the installed load may be higher than needed to achieve the required lighting levels. To compensate for this, the luminaires are able to be dimmed using the DALI controls thus achieving a lower operational load. In summary, the operational lighting load will be lower than the installed lighting load"	Outstanding from design phase	Comment on statement:- This is where we have queried on occasions the choice of fittings and layout of fittings as this fact is avoidable in some instances. The DALI system can compensate, but when ballasts and fittings are changed in the future it is highly possible that the system will not be commissioned back to the reduced levels. Better if possible to get nearer to the design level - I have queried the 25% overlit figure for some time now.	Whitecroft believe that the ballasts automatically revert on a change to the previously commissioned lighting level however written technical confirmation of this fact was requested. This was confirmed at meeting of 6/11/13 as not being the case and ballasts will have to be manually programmed to the correct design level. IP requested that training and is necessary equipment is provided so that estates staff can undertake this work. BM to confirm including scope and content	BM	
	Lighting control	WW	Description of operation of proposed lighting controls and drawings indicating where each type of control is used Strategy for low energy lighting required for evaluation Check BREEAM requirements	Outstanding from design phase	Schneider FDS received and reviewed along with ZBP specification. Revised lighting controls proposals reviewed -. Presence detection – why is the time delay 20 minutes? 20 minutes confirmed as user request Controls – suggest some to *the dining room, rest* rooms and kitchens. I thought there was presence control to ensuites? Why is there no automatic control to seminar rooms, sitting rooms, socialisation spaces, staff lounge or study rooms? –	ME to review and update specification and Schneider to provide a definitive FDS. This should include controls to plant and riser areas, electrical cupboards ensuites, dining room, rest rooms and kitchens, seminar rooms, sitting rooms, socialisation spaces, staff lounge and study rooms Issue 04 now received. This clears the issues relating to plant and riser areas, electrical cupboards ensuites and seminar rooms and staff lounge but not dining room, rest rooms and kitchens, sitting rooms, socialisation spaces, and study rooms which are still noted as being manual only control – I have been raising this for a long time now but no action appears to have been taken.	Mercury/WW	2
	High efficacy external lighting	WW	Review of Landscaping/emergency lighting proposals issued at meeting of 5/12/12	Revised drawings to be issued w/c 20/1/14	The schemes reviewed for the courtyards and children's play areas depend heavily in metal halide lamps. In some instances there are many fittings when fewer would be adequate if mounted higher and/or of a type having a higher light output. Following comments on labs not using LED lighting, recognising that LED technology has improved, and noting that	See notes below on specific area Revised set of drawings to be issued		1

SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
					external lighting is particularly visible to the public, BM were asked to reconsider the designs and table a more energy efficient set of schemes, making use of LED where more economical in energy terms to do so.			
					The children's roof garden was particularly inefficient and whilst accepting that this area needs to have vibrant lighting, suggested this is redesigned. The LEDs around the planters alone appeared to consume over 6kW. The total lighting load was 11.7kw which is intense for a relatively small area	Redesign offered and option 2 preferred. ME confirm this will be adopted. The drawing issued is not option 2 and does not include any of the energy saving LEDs offered. MEXXXXPL541104E MEXXXXPL541105D	Mercury	
				Outstanding from design phase	PIR, photocell and time controls discussed to the courtyard and redesign to incorporate further controls where possible	Confirmed but latest drawing issued to Ecoteric does not show photocell control MEXXXXPL541101C, MEXXXXPL541102B MEXXXXPL541103C	Mercury	
				Outstanding from design phase	The lighting for escape routes from plant rooms needs to be more economically controlled – possibly 1/3 from photocell and the rest from manual switching and PIR where possible and safe to do so.	Confirmed as included by ME but latest drawing issued to Ecoteric does not show any control MEXXXXPL541107D	Mercury	
				Outstanding from design phase	The lighting to trees and shrubs should be photocell controlled with a number of photocells located in groups of similar courtyards – e.g. deeper courtyard, larger higher courtyards and located such that they are not obscured by plant growth.	Confirmed but latest drawing issued to Ecoteric does not show photocell control MEXXXXPL541101C, MEXXXXPL541102B	Mercury	
				Outstanding from design phase	The lighting to the adult's main entrance causes some concern in terms of functionality – use of bright uplighters and high contrast. From an energy perspective, again the use of metal halide is not considered the most efficient solution.	The team were reminded of the ER requirements for the most efficient fitting suitable for location. Broader issues to consider in this location including visual comfort and clear wayfinding suitability for clients with visual and learning disabilities. Controls discussed such as staged shut down indicating when entrance not in use after 10pm. Agreed that a separate meeting was needed to resolve these issues and this meeting to be kept informed re energy implications. Revised proposals awaited latest drawing issued to Ecoteric has not been revised from previous issue MEXXXXPL541108D	BM/Mercury	
CENTRAL PLANT								
	Borehole water	BM		Closed	Potential uses are Atrium underfloor heating, food disposal	Permanent use not identified. Borehole will remain for future	WW/BM	1

SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
					system,			
OVERALL BUILDING ISSUE								
For resolved building fabric issues see tracker 24								
Fabric	Glazing	BM	Choice of Glass	Response required by 25/1/14	Still awaiting final choice of glazing – need to see characteristics and effect on model, particularly if differentiation of type between north and other facades is lost	Report awaited – mark up of glazing seen but not yet issues to Ecoteric, reported that double plus interstitial arrangement – effect on model to be assessed if agreed. Differentiation of glazing believed now to be incorporated but not confirmed. Difficulties with blind specification is delaying this. Reported as • children's and podium – as above • tower – TBC • non clinical podium DG NA to confirm glazing types	Nightingales/ BM	1
ETFE roof	U Values	BM	Confirmation of the U values needed – discussion on how these are calculated and the effect of framing, larger pillows now proposed	Response required by 25/1/14	Nightingales to discuss with manufacturers and obtain definitive answer plus guidance on fitting and solar control – needs to be fed into model. NA-ZB-04-DT-240-104-6 and PL-240-104 reviewed	NA to confirm 2.2w/m2/K. There appears to be some cold bridging particularly core J and children's atrium – details received – to be reviewed	Nightingales/ BM	
ENERGY MODEL								
	Version 3 issue 09 of model	WW/BM	As above	Outstanding from design phase	Target has been exceeded when the labs demand is added in.	The demand of the labs has been confirmed from metered data – the overall result is now more than 80kg – what is proposed to address this? Agreed action is to: • Derive accurate consumption from labs from ERM – ongoing issue to be discussed at meeting of 12/3/14. Fiscal data has been obtained as indicated on attached sheets but gas needs reconciliation – awaiting remedial action to main gas meter to labs • Measure equipment consumption over typical 6 months. This amounts to 1.21kgCO_2/m^2/annum • Provide more detailed breakdown of WW model –	WW/BM	1

SECTION 4 CONSTRUCTION PHASE MAIN and CHILDRENS HOSPITALS								
ISSUE/REFERENCE COMPLETED NOT COMPLETE INFOR REQUIRED RDD ITEMS ONGOING	SUB ISSUES	ISSUE OWNER	ACTION/QUERY/ISSUE	DATE OR DESIGN STAGE REQUIRED	ACTION TAKEN / ONGOING ISSUES	RECORD OF MEETINGS AND COMPLETED ACTION	Action by	PRIORITY
						received and analysed on attached sheets • Discuss if target adjustment is necessary – agreed to uplift by equipment load but need to look further at causes of excess cooling, HVAC and particularly the gas consumption. • Discuss energy saving measures to reduce avoidable energy use – audit required of labs energy use to determine potential. The building is not considered to be working efficiently at the moment and investigation and remedial action is required. • Ratify gas consumption and reconcile differences between ERM and fiscal data – awaiting connection to fiscal meters • Agreed to uplift area to 200,300m2 which reduces predicted carbon to 82 $kgCO_2/m^2/annum$		
For resolved energy issues see tracker 24								
NON SYSTEM RELATED ENERGY ISSUES								
For resolved issues see tracker 24								
LABS								
For resolved issues see tracker 24								

SECTION 5 COMMISSIONING PHASES MAIN and CHILDRENS HOSPITALS								
ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS	Action by	Priority

SECTION 5 COMMISSIONING PHASES MAIN and CHILDRENS HOSPITALS								
ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS	Action by	Priority
BUILDING SERVICES SYSTEMS								
General systems options	Energy sub metering	WW/WS P/ NHSGG C	Metering should now be set up and all software installed Users trained and reporting systems installed	Prior to handover	Signed off report sheets and written method of operation, all points which will need to be measured for operational energy reporting set up and agreed All cost and function areas set up and agreed Users fully familiar with the system and able to derive reports	Review September	BM/Ecoteric	
	System zones	BM/WW	Systems zones set up and proved to operate without simultaneous heating and cooling	Prior to handover	Report sheets and written method of operation, time and temperature and settings recorded for each zone	Review July	BM/Ecoteric	
	Local controls	BM/WW	Operation of local controls checked and representative sample of rooms checked under load conditions	Prior to handover	Report sheets and written method of operation, time and temperature and settings recorded for each zone	Review September		
	Heat recovery	BM/WW	Performance testing	Prior to handover	All heat recovery to be tested to prove rated performance is achieved in situ – test sheets	Review September		
	High efficacy internal lighting	BM/WW	Set lighting levels to room data sheet lux	Prior to handover	Test sheets to be set up with target and measure s levels.	Review September		
	Lighting control	BM/WW	Lighting control proved to operate under varying daylight conditions, occupancy sensing proved and operational	Prior to handover	Report sheets and written mode of operation, end users trained. Software handed over and lodged independently. Instrumentation handed over	Review September		
	High efficacy external lighting	BM/WW	Set lighting levels to ERs Set up controls to correct times set up any lower curfew levels.	Prior to handover		Review September		
	Fan/pump speeds	BM/WW	Inverter and speed control set up and proved under varying load conditions	Prior to handover	Report sheets and written method of operation, inverter settings recorded for each system	Review September		
	Renewables Central energy supply and Combined heat and power (CHP)	BM/WW	Central plant and renewable energy systems commissioned and under maintenance contract performance testing proves operation and carbon savings to be achieved	Prior to handover		Review November		
	Building energy management	BM/WW	Commissioning to be undertaken which optimises energy performance, sets up	Prior to handover	Report sheets and demonstration to auditor	Review September		

SECTION 5 COMMISSIONING PHASES MAIN and CHILDRENS HOSPITALS								
ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS	Action by	Priority
	systems (BMS)		exception reporting for systems left in hand or disconnected and graphical interfaces fully set up and commissioned Systems proved under load BREEAM requirements have been met re man 1					
OVERALL BUILDING ISSUES								
Fabric	U values	NHSGG C clerk of works	No further action unless thermographic testing proves necesssary					
	Air permeability	BM/WW	Airtightness testing	Prior to handover	Site report	Ongoing - please provide results		
Modelling	Net CO2 emission	BM/WW	No further action provided final operation model has been provided		Noted that the model will be updated from the results from the air tightness test only and that the HVAC allocation to zones is correct. The model may not reflect minor room changes as some rooms were merged due to the size of the model but this is not likely to affect the accuracy of the outcome.	Series of tests being undertaken across a range of building fabric types - need to confirm how these will be input to the model as there will not be a single value for airtightness	WW	
WLC	Whole life cost model	BM/WW	No further action provided final operation model has been provided					
INTERNAL ENVIRONMENT								
Ventilation	Fresh air rates	BM/WW	Commissioning to demonstrate that air systems have been set up to correct flow rates and that systems are optimised for required ventilation rates and free cooling	Prior to handover	Report sheets and proof of operation under load	Review September		
Acoustics	Acoustics	BM	Acoustic testing undertaken			Review September		
NON SYSTEM RELATED ENERGY ISSUES								
Equipment	Energy consuming equipment	NHSGGC	Energy consuming equipment set up to optimum performance	FBC approval to end stage E	Manufacturer's set up of major items to be witnessed and evaluated	Review September		
At the end of the commissioning phase, all the above issues should have been addressed and any outstanding items from earlier phases cleared The low carbon auditor will need to have seen all above listed reports, commented on the issues and be able to confirm to the Board that the completed building meets the objectives in the employers requirements and targets								

SECTION 6 OPERATIONAL PHASE MAIN and CHILDRENS HOPITALS Note ! where joint responsibility noted, this shall generally be BM in contractual defects phase and undertaken where excess or unexpected energy use has been noted and NHSGGC beyond this phase

ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS
ALL SYSTEMS						
General Issues	Energy sub metering	WW/WSP	Metering should now be set up and all software installed Users trained and reporting systems installed	First 3 years of operation		
	audits	NHSGGC	6 monthly audit procedure set up to monitor progress and reconcile any difficulties	First 3 years of operation	Audit report	
	Appointments	BM	Suitably qualified and experienced energy specialist as specified for three years and beyond until targets are met and remedial action completed, with sufficient time allocation to undertake the identified actions, working in conjunction with the Boards own energy manager	First 3 years of operation	Confirm appointment and hours allocated to scheme. Provide progress reports	
	Remedial actions	BM	If remedial actions identified, prepare method statement and timescale for action	First 3 years of operation	Action plan	
	Heat recovery	BM/NH SGGC	Performance testing	First 3 years of operation /Life of building	Periodic check that operation is satisfactory	
	external lighting	BM/NH SGGC	External lighting not on during day	First 3 years of operation /Life of building	Periodic check that operation is satisfactory	
	Fan/pump speeds	BM/NH SGGC	Inverter and speed control set up and proved under varying load conditions	First 3 years of operation /Life of building	Periodic check that operation is satisfactory	
	Renewables Central energy supply and Combined heat and power (CHP)	BM/NH SGGC	Central plant and renewable energy systems commissioned and under maintenance contract performance testing proves operation and carbon savings to be achieved	First 3 years of operation /Life of building	Periodic check that operation and performance is satisfactory	
	Grant funding	NHSGGC	Monitor funds for any further opportunities eg PV	First 3 years of operation /Life of building	Annual check	
	Biogas/ alternative fuels	NHSGGC	Conclusion and timescale for any future installation	TBA	Need to providestatement of intent or outcome of negotiations	
	Hot water efficiency	BM/NH SGGC	Performance testing	Life of building	Periodic check that operation is satisfactory	
Fabric	U values	BM	Thermography to ensure integrity of insulation	First 3 years of operation	Recommended if any empirical evidence of bridging/condensation	
Modelling	Net CO2 emission	NHSGGC	Periodically update operational model as circumstances change	every 5 years	Update to reflect heated area and any major operational changes	
Lighting	Lighting controls	BM/NH SGGC	Monitor departmental use monthly through exception reporting via BMS – i.e. any department which uses +10% of monthly target Note target needs to be set related to proportion of internal and daylit rooms and available daylight	First 3 years of operation	Interaction with department to identify usage patterns, check on correct operation of lighting controls and any occupant action to disable them If cause isolated at higher hours of usage, uplift target	

SECTION 6 OPERATIONAL PHASE MAIN and CHILDRENS HOPITALS Note ! where joint responsibility noted, this shall generally be BM in contractual defects phase and undertaken where excess or unexpected energy use has been noted and NHSGGC beyond this phase						
ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS
			hours			
	Behaviour and operating hours	NHSGGC	As above	First 3 years of operation	As above	
Small power	Clinical need	NHSGGC	Monitor departmental use monthly through exception reporting via BMS – i.e. any department which uses +10% of monthly target Target set by adding up all connected equipment and applying diversity factors	First 3 years of operation	Interaction with department to identify usage patterns and connected equipment If found to be necessary, target can be uplifted	
	Rating of new purchased equipment	NHSGGC	As above	First 3 years of operation /Life of building	Ensure equipment purchased has low energy use, record any new equipment and notify energy manager Implement purchasing policy	
	behaviour	NHSGGC	As above	First 3 years of operation /Life of building	Interaction with department to identify usage patterns and connected equipment If found to be necessary, target can be amended	
Heating	External conditions	BM/NHSGGC	Record profile through BMS Set target based on 20 year average weather file and projected occupancy	First 3 years of operation /Life of building	No action unless energy use exceeds + 10% Undertake weather normalisation by agreed method if +10% energy use of heating energy over target detected	
	Controls and zoning	BM/NHSGGC	Metering - Monitor departmental or zone use monthly through exception reporting via BMS – ie any department or zone which uses +10% of monthly target	First 3 years of operation /Life of building	Check controls operation Check for simultaneous heating and cooling Check that set points have not been altered outside allowable tolerance	
	Maintenance and behaviour	BM/NHSGGC	As above	First 3 years of operation/Life of building	Check that set points have not been altered outside allowable tolerance If cause isolated at higher hours of usage, uplift target	
cooling	External conditions	BM/NHSGGC	Record profile through BMS Set target based on 20 year average weather file and projected occupancy	First 3 years of operation /Life of building	No action unless energy overall exceeds + 10% Undertake weather normalisation by agreed method if +10% energy use of cooling energy over target detected	
	Controls and zoning	BM/NHSGGC	As above	First 3 years of operation /Life of building	Check that window and blinds are as designed and blinds/shading use is as intended If all other explanations for excess use have been eliminated, independent consultant to undertake further analysis, calculation and detailed room monitoring via BMS of room conditions and recommended remedial action	
	Internal gains	BM/NHSGGC	As above	First 3 years of operation /Life of building	Interact with department to monitor and record occupancy levels Correlate with equipment usage and lighting usage If significant variance in expected occupancy level, hours of use and /or equipment use is agreed cause, uplift target	
HWS	demand	BM/NH	Metering - Monitor departmental use monthly through exception reporting via	First 3 years of operation/ Life of	Interact with department to establish water use patterns Ensure no avoidable waste or leakage If	

SECTION 6 OPERATIONAL PHASE MAIN and CHILDRENS HOPITALS Note ! where joint responsibility noted, this shall generally be BM in contractual defects phase and undertaken where excess or unexpected energy use has been noted and NHSGGC beyond this phase						
ISSUE/ REFERENCE	SUB ISSUES	ISSUE OWNER	EVIDENCE AND/OR ACTION REQUIRED	DATE OR DESIGN STAGE REQUIRED	OUTCOME, DATE COMPLETED NOT COMPLETE	RECORD OF MEETINGS AND OUSTANDING ACTIONS
			BMS – ie any department or zone which uses +10% of monthly target	building	usage reasonable, uplift target	
Central plant and distribution	Plant and system selection and efficiency	BM/NH SGGC	Metering – monitor plant and system efficiencies monthly through exception reporting via BMS – ie any plant item deviating by 5% of design quoted efficiency or overall change in system distribution losses against target of +10%	First 3 years of operation /Life of building	Check plant conditions and if necessary employ specialist independent consultant to undertake detailed logging Undertake remedial action recommended by specialist	
	Controls and zoning	BM/NH SGGC	As above	First 3 years of operation /Life of building	Check controls operation, Check that set points have not been altered outside allowable tolerance Check for deviation from commissioned values If no apparentcause action as above	
	maintenance	NHSGG C		Life of building	physical checks for hand operation, leakage, closed vales, breakdown of insulation	
	Operational energy savings	BM	Single bedroom set back - Could air volumes to chilled beams in single rooms be set back overnight? WW to check that chilled beam performance would be maintained	Outstanding from design phase	Not to be programmed in construction phase – reserved for further savings if needed in operational	
			Theatres off when not in use	Outstanding from design phase g	Not to be programmed in construction phase – reserved for further savings if needed in operational	

From:	Hirst, Allyson
To:	Macleod, Mairi; McCluskey, Fiona; Wrath, Frances; McGarrity, John; Powrie, Ian; "David Hall"; McDerment, Hugh; Greig, Mark; McSweeney, Karen
Subject:	Project Team Notes
Date:	09 September 2014 14:28:17
Attachments:	Notes of Meeting of 5th September 2014.doc

Sorry but running a little behind myself this week – I would be grateful for any comments on these by Thursday morning so that I can update and try to have distributed by Friday morning. (I haven't updated the attendees as yet)

Thanks

Allyson Hirst
PA to the Project Director
New South Glasgow Hospital Development
Construction Offices
Hardgate Road
Govan
G51 4SX

[redacted]

PROJECT TEAM MEETING: 5th September 2014
ACTION NOTE

Present:	Peter Moir (PM)	Mairi Macleod (MM)	Frank Carnie (FC)	Karen Connelly (KC)
Hugh McDerment (HMc)	Graham Forsyth (GF)	David Loudon (DL)	Frances Wrath (FW)	Robert Stewart (RS)
Heather Griffin (HG)	John McGarrity (JM)	Alastair Smith (AS)	Mark Greig (MG)	Gordon Beattie (GB)
Apologies:	David Hall (DH)	Karen McSweeney (KMcS)	Fiona McCluskey (FM)	Eleanor McColl (EM)
Stephen Gallagher (SG)	Mark McAllister (MMc)	Ian Powrie (IP)		

Item No	Item	Discussion/Information	Action	Action by Whom
1.	Previous meeting	Accepted as an accurate record	-	-
2.	Matters Arising	All matters arising are covered within the agenda	-	-
3.	Adult and Children's			
	Adult	HG was unable to attend the meeting and therefore no update to note	-	-
	NCH	MM updated • Met with Science Centre colleagues who are developing their interactive games for the atrium which will then be taken for approval to clinical staff within RHSC • A meeting is scheduled with the parents group of Schiehallion patients to discuss the parents room within their ward. MM will be able to update at the next meeting the progress on this matter • Wayfinding is progressing as are zone checks and visits by staff groups which are proving to be providing positive feedback. MDU from RHSC are being taken on a tour this PM • Isolation Rooms within NCH – a technical review with relevant RHSC staff is scheduled to ensure that full understanding of the technical aspects of these rooms is clear • OR Theatres – MM agreed to review at the OTM scheduled at RHSC on Monday as this requires to be bottomed out	-	-
	General	• DH gave an update on programme. Key issues were • Zone F – programme A&B hold up at around 1 week behind • Zone K monitoring – link bridges and atrium • Zone B – dental – area remains under monitor • Main Entrance – Adult – sofit cladding to be completed to be aware that this could hold up door completion • Externals – arrival square is underway but monitor progress as weather could impact completion • Section 56 works – finalising details along with Langlands and Hardgate Road – again to be mindful of weather impacts • Commissioning – AHU, Medical Gases, carcus testing is on-going and may incur some evening and week end testing - cost implication • Neuro link tie in – agreement reached with BMCE on commencing date of 29th September. Design for temporary access is being completed with meeting taking place to reach agreement with clinical services and FM	-	-
4.	Equipment	Group 2 – this remains as previously reported. Stores are awaiting requests and have items in stock and ready for delivery		

		Group 3 – progressing sitting at 86.9% complete Patient Entertainment – Final clarification with a meeting scheduled for next week to conclude. Business Plan to be pulled together for approval before any further progress can be made Removals – meetings set to evaluate. Programme to include preferred supplier by end of September which is well within programme . DL asked to have sight of the programme Group 1 – Aseptic , Renal and audiology to be completed and will be provided by DWilson of BMCE Decontamination – FW agreed to chase up JSlater for report which was due by close of play today. IF the programme proves it can be adjusted. Group 5 – programmed to commence on 22nd September. Concerns were raised with MIS and NC noted that he has prepared a list of questions to ensure that this company are commercially following their tender. FW was happy to note that most drawings are signed off for most modalities and no issues to report. DL asked for sight of the order dates being given to suppliers. Big ticket items are being progressed through OJEU – NCH pull down beds, AGV, bed side lockers, sack holder etc are all underway Miscellaneous – Drying cabinet canopies – this was raised at an early warning meeting that this information was required to allow works to progress – FW agreed to chase up with JSlater		
5.	Migration	Unfortunately FMcC and SG were both unable to attend the meeting therefore there was no update to be given.	-	-
6.	IT	An IT paper was submitted for the teams information – MG noted a few points Agreed telephoney server connectivity Replacement power fitting in switched in notes 116 and 162 New staff have now commenced on the project to take forward commissioning and migration – familiarisation sessions planned for next week Equipment planning is underway Applications identified to assist with the PC build process Mobile/computer trolley requirements identified with next stage – procurement Patching schedule underway AV/VC design work is underway for rooms within A&C In regards to T&L – working with Capita IT to reduce the costs for this aspect of work MG agreed to check the “as builts” to ascertain if spares are shown at DH request	-	-
7.	Telecoms	KMcS had forwarded an Telecomms update for the groups information and highlighted points Comms room 101 will be the location of voice equipment Equipment delivery from 8th September to Labs FM area with installation from 22nd September Wireless handset functional testing on 20th November ready for use 15th December Wireless handsets training for commissioning team programmed for January Confirmation of copper links to all node rooms are in place Unified comms – schedule of works are now out – planning and training on track for October 2014 and BT will revert back with their recommendation – RWright will sign off In building solutions – design and costs awaited and now nearing programme critical – impact on device for clinical staff – Vodaphone will also be invited to offer their solutions KMcS confirmed that all staff working within SGH will be given a new extension number		

8.	T&L/Office/INS	GF gave a verbal update on the T&L and Office Projects Teaching and Learning • Met with sub users and other meetings being planned for walkabouts • Cladding completing • Gold mesh commences in around 2 weeks • Internal partitions almost complete • First fix almost complete Office • On programme • 5 of 6 sessions already taken place to allow staff to review the mock ups. Questions raised from these sessions have been reviewed and some solutions have been taken on board – ie confidentiality, storage solutions and ability to divide desk spaces • Additional showers have been added at the request of the users from 2 to 4 and DL gave his approval for this to be progressed • MM/HG and SG joined GF on a tour of the office building to allow them to get a feel for the space and layout Neuro – discussions taken place with users on the changes to access of the front door in order to carry out the HV cable diversion. Works are planned to commence next week. Meeting with Estates and CSM to review the options for the front door during bridge tie in at INS – principals agreed and GF to schedule out necessary works	-	-
9.	Phase 3A/Car Park/Demolitions	HMcD provided a written report on works carried out or to be carried out – • MSCP 3 – professional services tender underway • Bat and environmental surveys completed • Power supply diversion tender prepared • Consultation notice and meeting arrange for Elderpark library for 22nd September and planning notice has been submitted • Completion July 2016 • Demolitions - service and site investigations underway • Bat survey underway • Moving of services and recreation of pits and duct route details discussed • Completion December 2015 • Demolition tender for bacteriology completed, asbestos survey requested and meetings with Facilities to prepare for movement of staff and equipment – building emptied and ready for demolition by 31/12 • Langlands Drive – Planning application submitted and tender being prepared to proceed with the works once planning is approved. Completion by 31st March 2015	-	-
10.	Estates Update	IP reported that interim compliance has been granted with all environmental aspects being either noted as achieving or highly		

		achieving. Commissioning commences on 8th September. SEPA have requested a review of the Suds design to be submitted by end of September. IP is progressing this VIE – Commissioning taking place on 8/9 and 10 September with Lynn Morrison invited to complete the QA check on the 11th September Decommissioning plan for the retained estate has been reviewed and approve by SEPA		
11.	ACOB	Contract Completion meetings with BMCE will take place in early October – PT staff are asked to feedback any ideas on questions and agenda items to be raised for these meetings. Post Meeting Note : Technical/Contractual Meeting to take place on 2nd October with the Migration/Commissioning and Specialised Commissioning taking place 7th October with each meeting taking place over a period of around 1½ hours Annual Leave DL has to review information from HR on policies employed by NHS GG&C but due to the level of work that the project team will require to complete over the period of commissioning it was noted that :- • Staff will be encouraged to take the Christmas period as annual leave • Be mindful of workloads during the handover and commissioning • Resources are required to be in place during any periods of absence/annual leave etc • Reasonable time off during the period before/during migration	-	-
12.	The next meeting of the Project Team will take place on Friday, 12th September 2014 at 11am.		For noting	All

From: Frew, Shiona
To: Suarez, Rozanne; Loudon, David
Cc: Hirst, Allyson
Subject: RE: NSGH Update for Q&P - today?
Date: 09 September 2014 14:13:31
Attachments: Q+P ExecSummary & Report Sept 2014.doc

Hi Rozanne

Please find attached the NSGH Update paper for the Q&PC as requested.

Kind regards

Shiona

From: Suarez, Rozanne
Sent: 09 September 2014 14:08
To: Loudon, David
Cc: Hirst, Allyson; Frew, Shiona
Subject: NSGH Update for Q&P - today?

Hi David
Could you let me know if you will be able to get your NSGH update paper to me today for Q&P? If not I can send it out as a "To Follow" on Thursday.

Kind regards,

Rozanne Suarez
Team Secretary/Administrator
Board Administration
JB Russell House
Gartnavel Royal Hospital

[redacted]

NHS Greater Glasgow & Clyde

Quality & Performance Committee: **16th September 2014**

Paper No: 14/

David W Loudon, Project Director,
New South Glasgow Hospitals Development

New South Glasgow Hospitals: Progress Update – Stages 2 & 3

Recommendation:

1. The Quality and Performance Committee is requested to note progress at the New South Glasgow Hospitals Development;

2. The Quality & Performance Committee is requested to note the background to the location of the Child Psychiatry Inpatient unit, (Appendix A);

3. The Quality & Performance Committee is requested to approve the recommendations in relation to the Site Wide Demolitions and Car Park 3 procurement, (Appendix B);

4. The Quality & Performance Committee is requested to note the progress and recommendations of the retail strategy, (Appendix C).

Purpose of Paper:

1. To inform Quality & Performance Committee of progress at the New South Glasgow Hospitals Development and to note that the project currently remains on target programme for delivery at the end of January 2015;

2. To inform the Quality & Performance Committee of the background to the location of the Child Psychiatry Inpatient unit;

3. To request the Quality & Performance Committee to approve the recommendations in relation to the Site Wide Demolitions and Car Park 3 procurement;

4. To update the Quality & Performance Committee on the progress and recommendations of the retail strategy.

Key Issues to be Considered:

To note that the construction of the adult's and children's hospitals remains on programme for target completion date of 26th January 2015.

Any Patient Safety /Patient Experience Issues: None

Any Financial Implications from this Paper: None

Any Staffing Implications from this Paper: None

Any Equality Implications from this Paper: None

Any Health Inequalities Implications from this Paper: None

1. Introduction:

The content of this paper sets out the progress of each of the stages of the New South Glasgow Hospitals Development. The paper also includes a progress update on the Teaching & Learning Centre and New Accommodation (Office) Building.

2. New Adult & Children's Hospitals

a) Summary status of the works (as at 8th September 2014).

Stage 3 Start Date	28 March 2011
Stage 3 Target Completion Date	26th January 2015
Stage 3 Contract Duration (Revised Target)	201 weeks
Elapsed contract period at 8th September 2014	181 weeks
Period Remaining	20 weeks

b) General progress on site against programme

Phase	+/- In period	Comments
Stage 3 Adults & Children's Hospital Construction	0	Target handover date agreed as 26th January 2015. Maintaining progress this period.
Stage 3 Energy Centre Construction	0	Maintaining progress this period
Car Park 1	0	Maintaining progress this period against the target completion date of 26th January 2015.

c) Design

- The Project Team continue to focus on reviewing the wayfinding and signage proposals and the design strategy for dignified spaces.
- No further design changes have been requested at this time.

d) Construction Progress (Highlights)

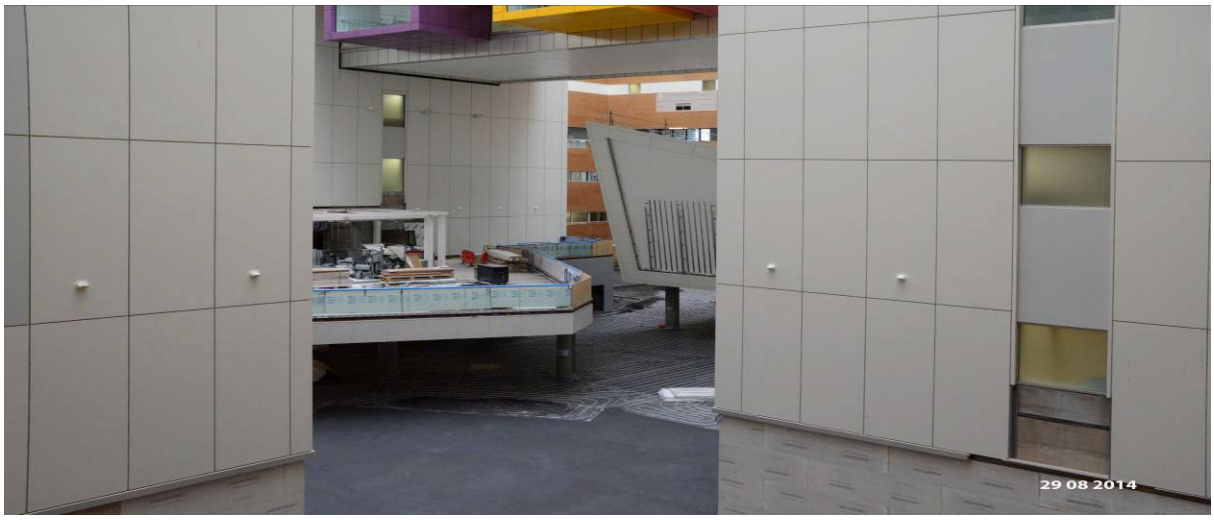
i. New Adult Acute Hospital

The M&E installation continues to be progressed on all levels of the Adult tower stack and range from first fix module installation to completed and tested areas.

The under-floor heating to the adult atrium is nearing completion and the screeding works are following on to areas as the under-floor heating installation is completed. The tiling works to the adult main atrium was commenced at the beginning of September 2014.

Internal fit out to the atrium link bridge is progressing in line with the programme.

Installation of glazing, cladding and final decoration is progressing to the internal and external face of the atrium walls. The removal of the mast climbers is ongoing and to date 12 out of 16 have been removed.



ii. New Children's Hospital

The under-floor heating and screeding works to the atrium areas has been completed and the ceramic tiling is well underway and has now commenced in the main entrance area.

The reception desks are currently being fitted throughout the middle area of the atrium and tiling tie in works with the surrounding departments is being carried out. Overall, the tiling works are circa 90% complete.

The installation of the canopy at the main entrance is being planned to take place at the end of September 2014.

In general, the main fit out continues to progress as programmed for target completion on 26th January 2015. External landscaping works are ongoing to the area at the Emergency Department elevation and alongside the Children's Hospital elevation. The commissioning of the mechanical and electrical systems continues in line with the programme.

e) Internal Fit Out – Inspection Process

The quality control inspection process being undertaken by Capita Symonds (NEC3 Project Supervisors) is ongoing and to date, Capita have jointly inspected 116 areas with BMCL; overall this accounts for over 4600 rooms.

The NHS Project Team's zone checking is ongoing as areas become available for final inspection, the latest areas to which checking has been carried includes the discharge lounge, seminar rooms, female change and parent beverage/sitting area on the 3rd floor of the Children's Hospital and specific areas within a generic ward on level 7of the Adult Hospital.

f) Equipment

i. Group 5 Equipment (Imaging)

- The NHS Project Team continue to meet regularly with Imaging Directorate representatives in order to keep colleagues up to date on Group 5 Equipment progress and on other issues.
- A programme for the installation of the equipment has been agreed with the equipment suppliers and BMCL. Installation work will commence at the end of September 2014 and will continue until spring next year.

ii. Transfer Equipment

- 91% of version 1 of the Migration workbooks (MWBs) have now been returned by the Service Transfer Owners (STOs) and 59% of the version 2 of the workbooks issued to these STOs have also been completed and returned. The outstanding version 1 MWBs are being pursued through the Directorate Management Teams. A follow-up workshop with the Service Transfer Owners has been scheduled to take place on 23rd September 2014.

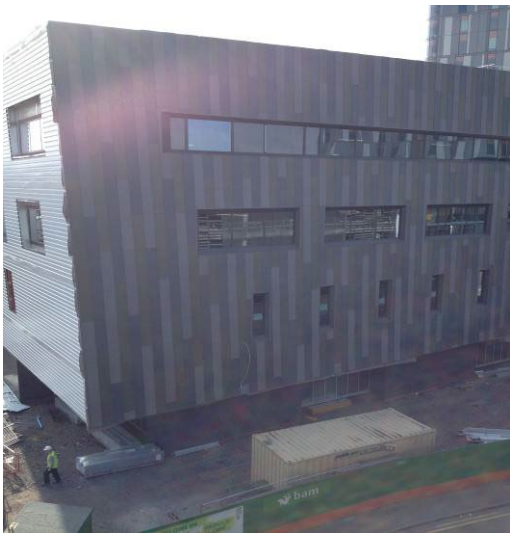
- The meetings between Procurement, IT and Medical Physics to identify the final transfer rate of equipment are on-going and work to input the information to the equipment database has commenced working well and should, when complete, inform the tender processes for equipment required. To date 85% (61, 545 lines of 72,406) of information by line has been uploaded.

3. Car Park 1

- The works to Car Park 1 are substantially complete with Mechanical & Electrical commissioning underway and snagging works being undertaken. BMCL has transferred the site construction parking into the car park and condition photographs of the car park were taken in advance

4. Teaching and Learning Centre

- The construction of the Teaching & Learning Centre remains on programme and on budget for completion by end May 2015.
- The external cladding installation is ongoing to all elevations. The zinc cladding is progressing to the north elevation.
- The external and internal block work is now complete.
- The mechanical & electrical 1st fix is ongoing.
- Roof plant on site.
- The construction of the internal partition walls is ongoing on all floors.
- The curtain walling and window installation is now completion with the exception of the loading bay areas.
- Roof Works is complete with exception to parapet details and walkways.



5. New Staff Accommodation (Office) Building

- The construction of the New Administration (Office) Block remains on programme and on budget for completion by April 2015.
- The installation of Windows and Wall Cladding are nearing completion with loading bays being the only significant area to complete.
- The external and internal block work is now complete.
- Internal partitions and wall linings continue to be progressed
- The mechanical & electrical 1st fix is ongoing.
- The raised Access flooring installation has commenced and is progressing well.
- The Lift installation has commenced.
- Roof Works is complete with exception to parapet details and walkways.

6. Energy Centre

- The commissioning of the mechanical and electrical systems is progressing in line with the SEPA Permit.

7. Change Control Process

The following tables provide an update of the changes that have been assessed and approved by the Acute Services Strategy Board through the projects change control process and an indication of pending changes that are being reviewed prior to formal approval.

7.1 Compensation Events which were previously issued

The table below summarises the previously issued Compensation Events:

Table 1

Item	Stage 1 costs (inc O/H, Profit & VAT)	Stage 3 costs (inc O/H, Profit & VAT)	Total costs (inc O/H, Profit & VAT)	Variation
Compensation Events No's 01 - 048	**£1,317,228.19**	**£9,798,678.63**	**£11,115,906.82**	-

The costs stated have been shown at the relevant rate of VAT.

8.2 New Compensation Events

The table below lists other changes which have been concluded since the previous report (July 2014).

Table 2

Item	CE No	Date completed	Status	Total costs (inc O/H, Profit & VAT)	Variation
Neurosurgical Building – upgrade to main entrance – design development	049	21/07/2014	Concluded	£190,789.69	£49,210.31 (REDUCTION FROM PREVIOUS ESTIMATE)
NCH Children's Park – Change to play equipment	050	21/07/2014	Concluded	£6,076.49	NEW (FUNDED BY YCF)
Works in relation to Section 56/1 (construction of lay-by on Govan Road)	051	21/07/2014	Concluded	£50,336.32	NEW (FUNDED BY SECTION 75)
Changes to arrival square required following dialogue with Glasgow City Council on operation of fastlink / bus stops	052	21/07/2014	Concluded	£161,617.24	(FUNDED BY SECTION 75)
			Total	**£408,819.74**	

8.3 Movement since last ASSB report (July 2014)

The table below shows the cost movement since the previous ASSB report.

Table 3

	Total costs/savings (inc O/H, Profit & VAT)
Compensation Event value at July 2014	£11,115,906.82
Compensation Event value at September 2014	£11,524,726.56
Movement since July 2014	**£408,819.74**

8.4 Potential Compensation Events

The table below lists potential Compensation Events currently under review:-

Table 4

	Total costs/savings (inc O/H, Profit & VAT)
1 in 10 year weather event - December 2013 & February 2014 – information currently under review	£120,000.00
Works to section 56/2 and existing entrance upgrade (Funded from Section 75)	£223,703.72
Value of Potential Compensation Events	**£343,703.72**

8.5 Compensation Event Classification

The table below provides an overview of the costs associated with those Compensation Events which are not related to the accepted contract scope of works.

Table 5

	Total costs/savings (inc O/H, Profit & VAT)
Compensation Events related to accepted contract scope of works	- £1,620,074.43
Compensation Events related to NHS GG&C Clinical Brief changes	£886,709.30
Compensation Events related to events outwith NHS Control - Inflation	£12,000,000.00
Compensation Events related to events for insurances – Group 5 equipment	£67,302.00
Compensation events related to works outwith the main contract	£190,789.69
Total	**£11,524,726.56**

8.6 Compensation Events being charged to other funding

The table below provides a list of Compensation Events and their associated costs which are being charged to other funding.

Table 6

Compensation Event	Funding being charged to	Amount
Carpark 0 – Interface Works	NHSGGC Core Capital Plan	£31,896.00
Pneumatic tube installation	NHSGGC Core Capital Plan	£79,531.00
Installation of sky ceilings to specific rooms within the NCH.	Yorkhill Children's Charity	£150,081.45
Changes to data, power, lighting and structural supports within the main atrium outpatient areas to enable the fitment of distraction therapy equipment	Yorkhill Children's Charity	£30,101.08
Additional Power and Data as requested by Science Centre,	Yorkhill Children's Charity	£14,799.75

Glasgow (designers for YCF).		
MTHW System – Site ring	NHSGGC Core Capital Plan	£140,400.00
NCH Children's Park – Change to play equipment	Yorkhill Children's Charity	£6,076.49
Works in relation to Section 56/1 (construction of lay-by on Govan Road)	Section 75 agreement funding	£50,336.32
Changes to arrival square required following dialogue with Glasgow City Council on operation of fastlink / bus stops	Section 75 agreement funding	£161,617.24

8.7 Defined Cost Update

99% of Contract Works tendered and contracts awarded
1% of Contract works currently at tender stage or in negotiation as variation to existing sub-contracts

Based on BMCL current cost projections and risk estimates for the Hospitals, the estimated outturn final cost to the Board is estimated to be in the range of £583M - £585M. This is within the revised Target Price incorporating all Compensation Events of approximately £585M.

Car Park 1 estimated outturn is around target price level of £11.4M.

9. Overall Budget Update (As at July 2014)

The core Project Budget remains unchanged at £841.7m, supplemented by £252k in respect of the car-park landscaping (£32k), pneumatic tube installation (£80k) and newly added Medium Temperature Hot Water (MTHW) system extension (£140k) funded from core capital. These are presented in Lines 4.1 to 4.3 in table 1 below. Additionally, funding has been secured from the Yorkhill Children's Foundation in respect of work in connection with the installation of sky ceilings to specific rooms within the New Children's Hospital (£150k) and changes to data, power, lighting and structural supports within the main atrium outpatient areas, also within the New Children's Hospital (45K). These are presented within the table below on lines 5.1 and 5.2.

Full details of the movement in the overall core and non-core Project Budget (at Target Price), since Contract Award/ FBC Approval, are reflected in Table 1 below:

Table 1

New South Glasgow Hospitals & Laboratory Project
Forecast Budget Analysis - As at July 2014

		Opening Values (Contract Award/ FBC)	Subsequent Movements Impacting on Risk Provision	Subsequent Movements not Impacting on Risk Provision	Revised Budget (Target Price)	Spend to 31st May 2014
1.0	**Construction Costs**					
1.1	Adult & Children's	£499,331,000	£0		£499,331,000	£468,306,243
1.2	Laboratory & FM Building	£75,780,000	£0	£0	£75,780,000	£74,024,338
1.3	**Original Estimated Total Build Cost (as bid)**	**£575,111,000**	**£0**	**£0**	**£575,111,000**	**£542,330,581**
1.4	Subsequent Movements	£0	£9,196,741	£56,085	£9,252,826	£0
1.5	**Revised Estimated Total Build Cost**	**£575,111,000**	**£9,196,741**	**£56,085**	**£584,363,826**	**£542,330,581**
2.0	**Other Costs**					
2.1	Preparatory Works and Fees	£20,155,510	£51,000	£0	£20,206,510	£12,031,500
2.2	Carparks 1 & 3 Approved Budget	£0	£19,245,000	£0	£19,245,000	£10,779,388
2.3	Teaching & Learning Facility	£0	£7,775,000	£0	£7,775,000	£1,780,026
2.4	New Administration (Office) Block	£0	£16,856,667	£0	£16,856,667	£3,977,824
2.5	New Entrance at Neurosurgical Building		£475,000	£2,941,667	£3,416,667	
2.6	Irrecoverable VAT	£116,046,890	£10,686,997	£599,550	£127,333,437	£111,388,371
2.7	Gross Equipment Cost	£62,040,000	£0	-£3,597,302	£58,442,698	£12,253,000
2.8	Risk Provision Main Construction	£68,346,600	-£65,174,405	£0	£3,172,195	£0
2.9	Risk Provision T&L and Office Block	£0	£888,000	£0	£888,000	£0
3.0	**TOTAL CORE COSTS**	**£841,700,000**	**£0**	**£0**	**£841,700,000**	**£694,540,690**
4.0	**Add: Funded from Board Capital**					
4.1	Carpark 0 interface works	£0	£0	£31,896	£31,896	£31,896
4.2	Pneumatic tube installation	£0	£0	£79,531	£79,531	£79,531
4.3	MTHW -Extension of site ring star pipe	£0	£0	£140,400	£140,400	£0
4.4	**Total to be funded from Board Capital**	**£0**	**£0**	**£251,827**	**£251,827**	**£111,427**
5.0	**Add: Other Funding Incl Donated Assets**					
5.1	Installation of Sky ceilings to specific rooms	£0	£0	£150,081	£150,081	£0
5.2	Changes to data, power, and lighting	£0	£0	£44,901	£44,901	£44,901
5.3	**Total Other Funding**	**£0**	**£0**	**£194,982**	**£194,982**	**£0**
6.0	**TOTAL CORE & NON CORE**	**£841,700,000**	**£0**	**£446,809**	**£842,146,809**	**£694,697,018**

Movements since the last ASSB meeting in May 2014.

Incorporation of the Redesign of Neurosurgical Building Main Entrance.

At the meeting held on 19th May 2014, the ASSB agreed to the following funding sources with regard to the estimated £4.10m redesign of the Neurosurgical Main Entrance. This was following ASSB approval of the procurement strategy presented by the Project Director and the Board's Commercial Advisors at the 10th March 2014 meeting.

Funding Source	Value £m	Comments
Allocation of NSGH unallocated Risk Provision	£0.50m	
Reallocation of Teaching and Learning Risk Provision	£0.07m	Project had not experienced any risk with regard to ground works.
Re-provisioning of NSGH FF&E Allowance	£3.53m	Any identified shortfalls in the FF&E budget will be funded from Endowment allocations.
Total	£4.10m	

The following lines on table1 have been amended to reflect the above adjustments:

- Line 2.5, incorporating the £3,416,667 estimated capital cost, excluding VAT, for the redesign of the Neurosurgical Entrance.
- Line 2.6 Irrecoverable VAT on Neurosurgical Entrance £683,333.
- Line 2.7 Gross Equipment Allowance reduced by £3,530,000, to part fund the Neurosurgical Entrance.
- Line 2.8 NSGH Main Risk provision reduced by £500,000 to part fund Neurosurgical Entrance.

- Line 2.9 T&L Risk provision reduced by £70,000 to part fund Neurosurgical Entrance.

As a result of the above adjustments, the risk provision for the main construction now stands at £3.172m and is noted in line 2.8. The combined risk provision for the T&L and Office Accommodation is now £888k and is noted in line 2.9, resulting in a total available risk allowance of ££4.060m.

Cumulative actual expenditure incurred since the project commenced up to and including May 2014 is £694.7m, and the associated spend profiles in respect of construction costs and all other areas, chiefly equipment, will be kept under review in conjunction with the latest handover and commissioning programmes.

Appendix i

Notes on Forecast Budget Analysis (Table 1)

1. Subsequent Compensation Events (excluding Non Core Elements and Equipment) at Target Price, net of VAT		
Concluded Compensation Events	£9,153k	
Potential Compensation Events	£100k	
Subsequent Compensation Events – Target Price (Line 1.4)		**£9,253k**
2. Summary of Preparatory Works and Fees		
2.1 Direct Fees		
Direct fees – Laboratory Build	£2,092k	
Direct fees – C&B	£3,350k	
Direct fees – Surveys etc	£250k	
Direct fees – Others	£408k	
Original Budget		£6,100k
Subsequent Movements		
Additional fees re Car-parks 1,2 & 3	£286k	
Supervisor fees	£970k	
Additional C&B fees (transfer from Non Works)	£760k	£2,016k
Direct Fees		**£8,116**
2.2 Enabling Schemes		
Site Wide upgrade of HV network		£681k
Site Wide upgrade of drainage infrastructure.		£1,191k
Renewal of Water Mains		£681k
Demolition of Chest Clinic for MacDonald House		£98k
Demolition of Psychiatric Block		£357k
Enabling Schemes		**£3,008k**
2.3 Other Costs		
Non Works Costs	£1,800k	
Less: Transfer to Fees	(£760k)	£1,040k
Section 75 Contributions		£5,000k
Mobile ITU		£1,500k
SAS Relocation		£1,277k
Scottish Water Land		£265k
Other Costs		**£9,082k**
Total Preparatory Works and Fees (Line 2.1)		**£20,206k**
3. Revised Brookfield Target Price		
Original Target Price (ex VAT) (Line 1.3)	£575,111k	
Subsequent Core Compensation Events (ex VAT) (Line 1.4)	£9,253k	£584,364k
Car Park 0 Interface Works (Gross) (Line 4.1)	£32K	
Less VAT	£(5K)	£27k

Pneumatic Tube Installation (Gross) (Line 4.2)	£80k	
Less VAT	£(13k)	£67k
Fume Cupboards and Safety Cabinets (Gross) (incl. Line 2.6)	£350k	
Less VAT	£(58k)	£292k
MTHW System (Gross) (Line 4.3)	£140k	
Less VAT	£(23K)	£117k
Work to be funded from Yorkhill Children's Foundation:		
Installation of sky Ceiling (Line 5.1)	£150k	
Changes to data, power, lighting and structural supports (Line 5.2)	£45k	
	£195k	
Less VAT	£(32k)	£163k
Revised Target Price (ex VAT)		**£585,030k**

Brookfield have been asked to prepare a detailed design and cost plan for the proposed new entrance at the Neurosurgical Building, and subject to demonstrating value for money, a Compensation Event (CE) will be issued.

The above table will then be updated to reflect both the CE and the revised Target Price.

Appendix ii

New South Glasgow Hospitals and Laboratory Project

Risk Movement Summary

Introduction

The opening risk provision at contract award was £88m at target price.
The risk provision now stands at £3.2m as a result the following key drivers presented in the table below.

		£m
Opening risk provision		**88.0**
Key drivers utilising risk		
Vat rate increase 17.5% to 20%		-13.2
Incorporation of Enabling Schemes		-3.5
Scottish Ambulance & land purchase		-2.0
Supervisor Fees		-1.0
Risk provision at FBC		**68.3**
Scottish Ambulance & land purchase Adj		0.2
Incorporation of Items which avoid the requirements for funding to be set aside from the National Capital Plan	**£m**	
Introduction of carparks 1,2&3	-25.4	
Removal of carpark 2 (net cost reduction)	2.0	
	-23.4	
Teaching & Learning Facility	-9.8	
New Administration (Office) Block	-20.8	
New Entrance at Neurosurgical Building	-0.5	
		-54.5
Compensation Events		-10.8 *
Balance per risk provision		**3.2**

Analysis of Other Including Compensation Events *

		£m
Compensation Events (CE)	Others	1.0
Compensation Events (CE)	Inflation	-10.0
VAT on above CE Events		-1.8
		-10.8

10. Key Risk Update – September 2014

Risk Item	Risk Provision May 2014	Risk Provision July 2014	Risk Provision Sept 2014	Reason for Movement	Date Majority of Risk Passed
Ground risk - general	£0.25M	£0.25M	£0.25M	No significant issues identified to date at former helipad site and adjacent former biochemistry block, residual risk until excavations completed in Stage3A area undertaken.	July 2015
Ground risk – below existing buildings	£1.0M	£1.0M	£1.0M	SI in area of Biochemistry identified no significant issues in surrounding area, risk remains until SI complete at Surgical block following demolition	July 2016
Planning Risk	£0.1M	£0.1M	£0.1M		
Client Changes	£0.5M	£0.5M	£0.5M	No changes identified	Oct 2014
Client Approval Delays	£0.50M	£0.5M	£0.50M	No issues to date, NHS responding to items issued in requested timelines	Sept 2014
Equipment Requirements	£0	£0	£0	Overall equipment list estimate reduced from £75M to £70M before consideration of transfers. Current £60M allocation within £841M project budget. Additional £10M secured from Endowments for extra funding towards equipment	
Residual risk available for other projects	£1.32M	£0.82M	£0.82M		
Total	**£3.67M**	**£3.17M**	**£3.17M**		

The value of risk included with the approved Teaching & Learning Facility and Office Building approved budget allocation is as follows:-

Teaching & Learning Facility, Office Building		£0.958M	£0.888M	Individual identified risks being managed by TLF Project Team. £70K reduction since last Report.

11. Recommendation:

Members are asked to note progress of Stage 2 (Design Development of the New Hospitals) and Stage 3 (construction of the Adult and Children's Hospitals), the New Teaching & Learning Centre and the New Staff Accommodation (Office) Building.

Author; David W Loudon, Project Director, New South Glasgow Hospitals Development
Tel No: [redacted]
Date : 8th September 2014

APPENDIX A

NHS GGC WOMEN AND CHILDREN'S DIRECTORATE
NEW CHILDREN'S HOSPITAL

CHILD PSYCHIATRY INPATIENT UNIT - BACKGROUND

The Child Psychiatry In-Patient Unit (CIPU) is a national 7 day service that provides for inpatients and day patients aged up to and around the age of 12 years with severe and/or complex mental disorder, emotional and behavioural disorders. The unit also provides an outpatient consultation function, often leading to admission as in patient or day patient. The CIPU was nationally commissioned in 2005, emerging from a regional service commissioned by West of Scotland boards. The inpatient service is currently under review by the National Services Division (NSD).

The current Children's Psychiatry ward is located in a separate building to the rear of the RHSC. To overcome this separation, it was agreed during the early planning of the hospital that this ward should be integrated within the New Children's Hospital (NCH). This was for two reasons: firstly a number of these children have other underlying health issues, therefore a location within the hospital would enable more easy access to other specialties; secondly, integration within the NCH would allow mental health to be seen as another child health condition rather than something which is separate and different.

During the planning for the NCH, a clinical adjacency matrix was developed to design the hospital and to ensure efficient patient journeys e.g. Emergency Department beside X-ray/Imaging; Theatres beside Paediatric Critical Care. There were no essential adjacencies for the Psychiatric ward and therefore it was agreed that this ward could be located on the fourth floor. No concerns were raised by the staff about this location.

The ward has been designed in close liaison with Psychiatry staff. Clinical staff were involved in the layout of the ward and deciding which fittings required to be anti-ligature (e.g. sinks) and there has been careful consideration given to the security requirements for this group of patients. The decision to site the unit on the 4th floor also meant that it was more likely to be a quieter area which is beneficial for some of the patients who are disturbed by an over stimulating environment. This location also enabled the provision of an integrated outdoor space for the children.

Kevin Hill
Director

7 August 2014

APPENDIX B

Site Wide Demolitions & Car Park 3

Overview

As part of the ongoing campus masterplan development a range of demolition works have been identified that require to be undertaken to clear the site of redundant buildings following migration of existing Southern General services into the new hospital facility. The site wide clearance has arising following the change in strategy from use of retained estate as refurbished office space to construction of a new office building, leaving elements of the end of life expectancy retained estate without a required use, The demolition works have been identified as falling into two distinct areas:-

1. West Side of Langlands Drive
2. East Side of Langlands Drive

The final multi storey car park also requires to be constructed.

This paper sets out the options available for procurement of these works associated with the wider Southern General campus master plan.

The procurement options for the works require not only addressing timescales identified, but also ensuring the Board comply fully with the relevant procurement regulations.

The works and required timescales are as follows:-

Works	Design Start	Target Start Date	Target Completion Date
Car Park 3	Mid 2014	Summer 2015	Summer 2016
East Side Langlands Drive Demolitions. (Management Building)	Mid 2014	Summer 2015	December 2015
West Side Langlands Drive Demolitions and Commencement of Central Park	Mid 2014 / early 2015	May 2015	December 2015.

Procurement Strategy

It is considered that in order to explore and deliver value for money the works fall into two distinct delivery groupings, namely:-

1. West Side of Langlands Drive
2. East Side of Langlands Drive and Car park Nr 3

West Side of Langlands Drive

As these works include the demolition of the accident & emergency department and outpatients cluster, it realises the opportunity to extend the “central park” concept of the main hospital down the line of the new entrance boulevard towards Govan Road. The “central park” works will be constructed by Brookfield Multiplex Construction following demolition of the redundant Surgical Block after migration to the new hospital in 2015. As the A&E/Outpatients cluster becomes available for demolition at the same time, it is considered that in

order to maximise procurement / logistics benefits the option exists to extend Brookfield Multiplex Construction contract to:

- Procure and manage additional demolition works
- Design and construct the extension to “central park” following demolition works

The advantages of this route are:-

- Fully explore and maximise logistics / commercial benefits
- Reduced management / preliminaries costs - utilise existing team and existing site accommodation
- Single warranty across all West Side Langlands Drive / “central park” works
- Continuity of staff - Retain existing site staff with knowledge of site and issues
- Logistics interfaces remain with single point of responsibility
- Benchmark costs in order to demonstrate "value for money"
- Knowledge of, and good working relationship with NHS Project Team
- Simplified contract management - awarded as compensation event with no need for new contract documents (reduced procurement costs)
- Experienced supply chain
- Commence works to programme

East Side of Langlands Drive and Car park Nr 3

There are considered to be three options to procure the works, namely:-

- National Frameworks
- Standalone Procurement Competition
- Negotiate and extend Brookfield Multiplex Construction Contract

National Frameworks: utilise the Health Facilities Scotland Framework to appoint a contractor from pre agreed master list

Standalone Procurement Competition: advertise project as OJEU notice, pre qualify contractors and run restricted competition. *Negotiation:* consider the technical and commercial benefits of negotiation with Brookfield Construction (successful design and construction of Car Park 1).

The ultimate aim of any procurement strategy is to consider both technical and commercial merits to arrive at the best value for money solution. The undernoted table provides an overview of the advantages / disadvantageous of each option.

National Frameworks	Standalone Procurement	Negotiate with Brookfield
Advantageous	**Advantageous**	**Advantageous**
• Selection of Advisors (PM, CM, CDMC) from pre agreed framework - "value for money" • Selection of Contractors from pre agreed framework • Can appoint in Stages - design, construction • Benchmark costs in order to demonstrate "value for money" • Flexibility to change procurement route • Single contract for design and construction services, Commence works to programme	• Maximise competition • Competition demonstrates "value for money" • NHS GG&C remain in full control • Select Advisors from wider market • Brookfield Construction can apply to enter competition and demonstrate commercial benefits • Ability to commission design separately, minimise commitment • The HFS Lead Advisor Framework could be utilised for engagement of full professional team • Commence works to programme • Design and construction requirements already development and proved robust as part of CP 1 and 2 Procurement	• Fully explore and maximise logistics / commercial benefits • Reduced management / preliminaries costs - supplement existing team, utilise existing site accommodation • Continuity of staff - Retain existing site staff with knowledge of site and issues • Logistics interfaces remain with single point of responsibility • Benchmark costs in order to demonstrate "value for money" • Knowledge of the site • Knowledge of, and good working relationship with NHS Project Team • Simplified contract - awarded as compensation event with no need for new contract documents (reduced procurement costs) • Experienced supply chain (particularly concrete contractors) • Commence works to programme

Dis-advantageous	Dis-advantageous	Dis-advantageous
• Time and internal resource input to procure new team • Restricted contractor competition if fully embrace Frameworks – selection based on proposal & interview, no competitive pricing during selection process • Right contractor for the project? - Selection limited to main contractors, without any visibility of specialist sub-contractors • Do the majority of Framework contractors have car park experience – maximise choice • Brookfield Construction not on framework, ability to retain expertise, explore logistics / commercial benefits lost • Cost premium to deliver a solution that is already well developed (design and specification validated as robust during CP 1 and 2 construction)	• Time and internal resource input to procure Advisors (OJEU timescales if HFS Lead Advisor Framework not utilised) • Time to procure Contractor (OJEU timescales) Once contract awarded the programme will be fixed, limited flexibility to suit funding availability	• Challenge over lack of competition • Political issues • Single track approach - require fall back position if value for money contract cannot be negotiated / agreed

Based on analysis of the advantageous and dis-advantageous set out in the tables, and considering some key issues, the best available procurement route is considered to be to run a standalone procurement competition. The key issues driving this recommendation are:-

- National Frameworks was designed to facilitate early contractor involvement in a projects lifecycle to support development of the project brief and construction requirements / solution; as the Board have previously developed the brief for two car parks, already have in place a comprehensive value for money specification, and successfully managed construction issues on two completed car parks, then

there is no real benefit of early engagement of a contractor and incurring potential oncost to manage project development

- Limited selection of contactors on HFS Framework with directly relevant multi storey car park expertise
- Maximise competition
- Competition demonstrates "value for money"
- Avoids potential challenge of negotiated procurement route
- Affords Brookfield Multiplex Construction the opportunity to present technical and commercial benefits as part of prequalification criteria, and if selected tender to include logistics benefits of still having a presence on site to undertake West Side of Langlands Drive works.
- Time available to design and procure works – follow full OJEU process

Recommendations

It is recommended that the Board consider and approve the following procurement options in order to further progress works to the campus masterplan, achieve the programme dates identified, and secure internal governance approvals for the recommended procurement strategy:-

1. Enter into dialogue with Brookfield Construction to explore the required works to complete the West Side of Langlands Drive, and at relevant stage prepare paper for submission to the ASSB and Q&PG to endorse issue of a Compensation Event to develop design and undertake works;

2. Develop and implement standalone procurement competitions for the selection of contractors to undertake works on East Side of Langlands Drive (Car Park and sundry demolitions)

Currie & Brown UK Ltd
25 August 2014

NSGH Retail Strategy Update

Executive Summary

1. Introduction

In the previous paper provided to the Quality & Performance Committee (Q&PC) on 1st July 2014, it was recognised that the NSGH Retail Strategy brings the opportunity to develop a planned approach to the provision of retail services that reflect a mixed economy with the benefits of both commercial and social benefit rental models considered.

Whilst the focus of this paper relates to NSGHs, it is recognised that the intent of the approach should also be applied pan Glasgow and Clyde where applicable.

Leaseholders will be compiled from new suppliers as well as existing occupiers who have expressed interest in providing retail services.

2. Selection Criteria

The occupiers of retail space within the new hospitals will be required to support the broader responsibilities of NHSGGC as described in a range of Board policy documents.

Six principle criteria will be considered within the retailer selection process and these are:

1. Compliance with the terms of the Standard Operating Agreement/Service Level Agreement;
2. Compliance with Health and Safety/ Healthy Employment;
3. Demonstration of Community Benefit;
4. Sustainability Compliance;
5. Adoption of an Affordable Pricing Policy for products linked competitively with high street or other NHS premises commodities:
6. Principle type of Service / Product range of goods and services that complement other providers and meet our preferred service types.

Note: All retailers will be required to comply with NHSGGC Food Retail Policy where applicable.

Details of the scoring criteria (draft) are available in Appendix 1.

3. Commercial Advertising

The role of NHSGGC as a public health organisation is highlighted in the approved NHSGGC Food Retail Policy and requires all food retailers to avoid commercial advertising associated with high sugar and/or high fat products.

It is proposed that this principle is extended in that NHSGGC would wish to create an exemplary environment in which the Health Board is not associated with products or services that contribute to poor health outcomes for residents. This principle would extend to all advertising opportunities within the NSGHs such as bus shelter advertising; online or patient info screens etc.
Acceptable advertising should be on the basis that the types of products or services do no harm and/or do not compromise health outcomes. An initial breakdown is detailed at Appendix 2.

4. Notification of Interest

NHSGGC issued all existing occupiers within the existing NHSGGC with an invitation for expressions of interest in occupying space within the new South Glasgow University Hospital campus. The current occupiers contacted were as follows:

- WH Smith;
- Deco Coffee;
- RVS;
- League of Friends;
- Yorkhill Foundation; and
- Aroma Coffee.

NHSGGC'S external retail advisors have circulated to all retail property agents in Scotland requests for notifications of interest and an advert was placed in the Herald, Commercial Property Pages on the 7th August, marketing the availability of the units. As a result of this process, we consider that the market is fully aware of the opportunities available at the SGH. Strong formal expressions of interest have been received from the following potential occupiers:

- WH Smith and Marks & Spencer potentially including their Zoodle Children's concept with arts and crafts, books, mags. etc specifically aimed at children.

A summary of the expressions of interest is detailed in Appendix 3

5. Proposal for Lease / SLA Structures Based on a Mixed Economy Model

It is anticipated that the successful retailers will enter into in a legally binding lease with NHSGGC/Scottish Ministers. Prospective occupiers will be provided with an information pack outlining the terms on which the lease is to be formed.

The rental terms agreed with each occupier may vary depending on the service being provided but will broadly fall into one of 3 models:

- Commercial rent only;
- Base commercial rent with profit share provision (potentially also covers occupiers "gifting" funds to the Board, (mechanism to be agreed on a site by site basis)
- No rental, but profit share provision. (mechanism to be agreed on a site by site basis)

In conjunction with our external retail advisor, we will seek to agree terms with the successful occupiers, which will offer the Board the best value / return, both financially and in line with the Board Policies and based on service provision. It is intended that these terms will reflect the Retail opportunities, presented by each site.

In addition as part of the tendering process, applicants will be required to provide details of their intended retail offering so that compliance with the food policy can be confirmed / monitored.

6. Recommendations

Members of the Q&PC are requested to note progress on the selection criteria for retailers and also the received expressions of interest.

To progress the process to the next stage, it is intended to issue an information pack to those organisations including copies of the, Board's Food policy and Selection Criteria Scoring Sheet Appendix 1. At this time they will be given an opportunity to formally tender for the provision of their given service from the New SGH Site.

The Group are asked to endorse the proposed course of action and approve the commencement of the formal process.

Appendix 1

Selection Criteria Draft Scoring Sheet

Selection Criteria		Comments	Score
1.	**Standard operating agreement** Demonstrated ability to meet lease operating requirements • Hours of operation / Public Holidays etc. • Compliance with all appropriate operating procedures on the premises • If Soft FM not being provided by GCC specification to be agreed.NHS GGC reserve the right to access premises to monitor compliance with Processes and Procedures • NHS GGC reserve the right to review the above as is deemed necessary	All elements required	**10**
2.	**Health and Safety/ Healthy Employment** practices including: • Health and Safety Act • Equal Opportunities Employer • Tobacco, Alcohol and Substance Misuse Policies • Active travel Policies • Participation in Healthy Working Lives Award	All elements required	**10**
3.	**Community Benefit**		**20**
	• Provision of volunteering or employability opportunities within service e.g. modern apprenticeships		(7)
	• Investment in local communities/ supporting community projects or patient care		(10)
	• Additional services provided to hospital users in addition to 'retail' activity		(3)
4.	**Sustainability policy compliance**		**25**
	• Inclusion of locally sourced products / suppliers		(5)
	• Green transport strategies and sustainable supply chains		(5)
	• waste minimisation techniques / waste management		(5)
	• Active promotion of recycling		(5)
	• Ethical procurement practices		(5)
5.	**Pricing Strategy** • Comparable to high street commodities		**10**
6.	**Principle type of Service / product range provided as part of proposal**		**25**
	Meets preferred service types (listed) • Café, dining room or sandwich bar facilities • Grocery items • Trolley services • Personal care items (under wear/ nightwear/ baby wear) • Chemist items- non pharmacy (toiletries) • Post Office Services • Banking Services • Newsagent Services • Gift Items/ Toys		(10)
	Unique service provider		(10)
	Complimentary to other providers (no oversupply)		(5)
	Food Retail Policy Compliance required		Compliant y/n
	Total Marks available		**100**

Appendix 2

Examples of acceptable advertising on the basis that the products or services do no harm and / or do not compromise health outcomes.

Unacceptable products associated with poor health	*Actively encourage products associated with healthy living*
• alcohol - zero tolerance - this would include loss leader promotions including alcohol e.g. supermarkets with alcohol promotions (Other forms of supermarket advertising would be fine) • e - cigarettes - zero tolerance • Food or drink items high in sugar and/ or fat • Food chains associated with high in sugar and/ or fat foods- commonly referred to as 'fast food' • Payday lenders/ Financial services with high rates of interest • gambling including lottery promotions • slimming products/ or protein body building products • baby 'follow on' milks	• Fruit and vegetables and general healthy eating (including supermarket promotions on these types of items) • Physical activity- leisure providers / gyms etc. • Mental health & wellbeing services e.g. Samaritans / GAMH • Voluntary sector organisations with links to health e.g. BHF / Diabetes UK etc. • Active travel organisations such as SPT etc.

Appendix 3

EXPRESSIONS OF INTEREST RECIEVED BY THE BOARD FROM EXISTING TENANTS

Occupier	**Proposed Service**	**Willingness to enter Lease**	**Willingness to enter SLA**	**Comments**
Yorkhill Foundation	Catering Service & Retail unit	Yes	Yes	
Murraydale Ltd Deco Coffee	Catering Service	Yes	Yes	
Royal Voluntary Service (RVS)	Catering Service	Yes	Yes	
Aroma Coffee	Catering Service	Yes	Yes	

EXPRESSIONS OF INTEREST RECEIVED BY THE BOARD FROM NEW TENANTS.

This detail to be provided by Montagu Evans and will include the information regarding the main Retail Offering.

Occupier	**Proposed Service**	**Willingness to enter Lease**	**Willingness to enter SLA**	**Comments**
WH Smith	News Agents	Yes	Yes	
Marks & Spencer	Retail	Yes	Yes	

From:	Hunter, William
To:	Kane, Mary Anne; Maclean, Alistair; Pace, David; Anderson, Robert; Beattie, Gordon; Stewart, Alan; Young, Scott; Wallace, Stephen
Cc:	Matheson, Fiona; Gardner, Andrew
Subject:	Key Action Points From Today"s OMG
Date:	11 September 2014 11:52:33

Dear All,

Can I please summarise the key points that relate to Facilities following this morning's OMG.

1. **Finance:** Ongoing review required in connection with YTD position & YE projection. The Boards overall position demonstrates a challenge of £1.1m therefore all Directorates where reminded to remain focused on revenue expenditure & develop recovery plans where required.
2. **CRES**: Overall CRES position for Acute demonstrated break even (albeit Facilities target is under achieved – ref Rob's recent communication). Slight concern that the majority Acute CRES schemes are back-ended. Ongoing review of CRES schemes are required with further governance & focus placed on achieving targets/identifying & implementing recovery plans.
3. **Absence**: The Board is averaging 5.9% which is an increase following on from last year's position. All Directorates were asked to review local operational arrangements to ensure that appropriate application of Absence policy was being consistently managed & adhered to. This was not mentioned at the meeting however it is clear that the Facilities Directorate is having a direct impact on the overarching position therefore further discussion at the next FM SMT would be helpful.
4. **e-KSF**: All Directorates are not meeting target monthly performance figure of 80%. (Facilities Directorate is marginally below target by less than 1%). All Directorates were asked to develop plans & trajectories which achieved performance targets & did not result in operational challenges at year end on the back of other service priorities which may be driven by commissioning & migration to nSGH's.
5. **Fire**: All Directorates have consistently fallen short of target training numbers/%'s from April to July 14. Facilities Directorate have underachieved its target by 43%. Once again all Directorates were asked to apply similar actions in connection with e-KSF compliance. Priority sites were all those not migrating to nSGH's.
6. **Clinical Activity/UCC**: Further clinical challenges have been experienced in connection with bed capacity. From a Facilities perspective we must continue to provide consistent & proactive service response to ensure that bed availability & patient movement is optimised. This issue should be highlighted across local/Sector FM teams to maintain staff focus.
7. **HR Scorecard**: Everyone was reminded to maintain focus on H&S inspections/audits (these are reported), allocating staff time to attend HCSW training & Stat Mand training/suspension - maintain focus on reducing staff time off work due to suspension (more focus required within FM....personal observation).
8. **Learning & Education Report**...from a Facilities perspective the biggest impact related to supporting OTM.

Regards
Billy

William Hunter \ General Manager \ South & Clyde Sector Facilities Directorate \ NHS Greater Glasgow & Clyde \ New Laboratory Medicine & FM Building, Southern General Hospital \ [redacted]

From:	Gilmore, John
To:	Campbell, Andrew; Cleaver, Don; Dunn, Keith; Fulton, Tom; McCormack, Bill; McFadden, Jim; McQuade, James; Menzies, John; Shaw, David; Smith, Euan; Stewart, Alan; Gallacher, Alan; Powrie, Ian
Cc:	McNeil, Elaine; Hagan, Cathy; "ian.sandford[redacted]
Subject:	AP MGPS Nomination and Appointment Process - Standard Forms and Letters
Date:	18 September 2014 10:17:44
Attachments:	Part 1 MGPS Appointment Nomination.doc Part 2 MGPS Qualifications and Experience Form.doc Part 3 & 4 MGPS Appointment Nomination.doc Parts 5 & 6 MGPS AP Appointment & Acceptance.docm Part 7 MGPS Certificate of Appointment MGPS from AE.doc

Dear All,

I have compiled all of the required forms for the AP nomination, appointment and acceptance process. These forms are in use already and are based on the electrical set of appointment and nomination forms. Please utilise them for all APs (present and future) going through this process. I've included our AE in this message to keep him informed of the standard set of forms in use within GG&C for this process.

I would also like to inform you that Ian Sandford is aware of the interview requirements for all potential APs as discussed at our Action Learning Meeting on Tuesday. Would you if you have not already done so complete the necessary forms for this nomination and approvals process.

Please keep me informed on progress with AP appointments so that I can keep the GG&C MGPS training records up to date.

Regards,

John

[redacted]

Appointment of an authorised person (MGPS)

Details of proposed appointment

Type: Renewal appointment

Dear

You have been nominated for appointment as authorised person in respect of the system(s),installation(s) and location(s) indicated below:

1
2
3
4
5

	Types of system or installation (Insert details of systems/installations for which the authorised person is to be appointed)	**Location** (Enter (X)				
		1	2	3	4	5
	Oxygen (liquid source)					
	Oxygen (cylinder source)					
	Nitrous Oxide					
	50%N_2O 50%O_2					
	Medical and Surgical Air					
	Medical Vacuum					
	AGSS					

If you agree to be considered for appointment as an authorised person for the system(s) and installation(s) indicated at the above location(s), and are willing to accept the appointment if offered, please complete Part 2 of the form and return it to me as soon as possible.

Yours faithfully

Mr I.Sandford
Authorising Engineer

(On completion of Part 1 pass to the prospective authorised person for completion of Part 2)

Name:

Current grade and job title:

Technical qualifications

Details of apprenticeship

Details of previous experience as an authorised person (if any)

Details of training received

Courses	Location	Dates

I confirm that I would be willing to accept the appointment as an authorised person (MGPS) for the system(s), installation(s) and location(s) listed in Part 1 of this form.

Signed …….. Date ……

Address……

……..

(On completion of Part 2, return this form to the management representative as indicated in Part 1)

Part 3: Certificate of satisfactory training and familiarisation

Dear Mr Sandford (Authorising engineer)

I wish to nominate ***(Insert Name)*** for appointment as authorised person for the system(s), installation(s) and location(s) indicated in Part 1 of this form. Authorised person training familiarisation and on-site training have been satisfactorily completed, and I know of no impediment to the discharge of authorised person duties. Would you please arrange to interview the candidate as soon as possible.

Signed Date

(On completion of Part 3, send this form to the authorising engineer)

Part 4: Certificate of approval

(To be completed by the authorising engineer)

The application for the appointment of ***(Insert Name)*** as authorised person for the system(s), installation(s) and locations indicated in Part 1 is approved, and is to take effect from ***(Insert Date)*** for a period of 3 years.

Signed: Date:

For & on behalf of

Appointment /training to be reviewed @ yearly audit	**Approved**	**Cert issue no. & date**

Estate Management Department
Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

[redacted]

Enquiries to: Alan Gallacher
[redacted]
Date: 25 April 2025

Mr
Estates Manager

Hospital name & Address

Dear Mr

FORMAL APPOINTMENT OF AUTHORISED PERSON (AP) FOR MEDICAL GAS PIPELINE SYSTEMS (MGPS) TO SHTM 02-01

I have been advised by the NHSGG&C Authorising Engineer for Medical Gas Pipeline Systems that you have successfully met the required criteria for the above position and as such I now formally appoint you as AP MGPS covering the following NHSGG&C sites:-

- *(Insert Hospital Sites)*

This appointment is from the period …… for a duration of 3 years (until ……).

Please sign and return the following appointment sheet to:

Mr A Gallacher, Sector Estates Manager (Clyde), Royal Alexandra Hospital, Estates & Facilities Offices, Paisley PA2 9PN within 7 days of receiving this letter.

Regards.

M.A.Kane
INTERIM DIRECTOR OF FACILITIES

Enc.

NHS GREATER GLASGOW AND CLYDE

To: A Gallacher, Sector Estates Manager (Clyde) – Royal Alexandra Hospital, Paisley

Appointment of Authorised Person (AP) for Medical Gas Pipeline Systems to SHTM 02-01

I confirm that I accept the appointment as a Authorised Person (AP) for Medical Gas Pipeline Systems to SHTM 02-01 for the system(s), installation(s) and location(s) on the following NHSGG&C sites:-

- *(Insert Hospital Sites)*

Duration of appointment being from ……. till ……...

Signed …… Date ……..

Address ……

……

……

……

NHS
Greater Glasgow and Clyde

Certificate of Recommendation for Appointment
Medical Gas Pipeline System Co-ordinating Authorised Person

Certificate no MGPS ……..

This is to certify that:

Mr ***(Insert Name)*** is recommended for appointment as MGPS authorised person for the purposes of the duties identified in management's 'Health Technical Memorandum'.

The recommendation applies only to the locations and to the Medical Gas Pipeline Systems and installations set out in Part 2 of this certificate.

The recommendation of appointment is valid only until the expiry date indicated in Part 1.

Signed
(Authorising engineer)

Name: ……

Date……..

If found please return this certificate to:

Estates Department

From: Gallacher, Alan
To: Kane, Mary Anne; Anderson, Robert
Cc: Davenport, Christine; Hunter, William
Subject: Authorising Engineer (AE) Services within GG&C
Date: 22 September 2014 18:37:24
Attachments: SummaryPaperAECosts2014.doc
image001.jpg

Mary-Anne/Rob,

I have attached a summary paper for the estates SMT to approve and endorse the way ahead for Authorising Engineer Services within GG&C. Its self explanatory and explained the issues and cost pressures it will have on the estates budgets. Happy to discuss.

I am also pulling together another paper on SCART or SHTM/Legislative Training required to ensure the estates staff have sufficient AP & CP training to carry out their day to day duties and the cost implication of this.

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Inverclyde Royal Hospital
Education Centre Rm 1.03
Larkfield Road
Greenock
PA16 0XN

[redacted]

[redacted]

AUTHORISING ENGINEERS SERVICES
REPORT TO ESTATES SMT
SEPTEMBER 2014.

Background:

The Scottish Health Technical Memorandums (SHTMs) have recently been revised and a number of Authorising Engineer duties are now required for estates to improve their statutory compliance around SCART where previously they were not. This is delivering not only a technical challenge to the estates teams in terms of manpower resources but is also adding a cost pressure to the estates budget. This paper has been drafted to explain the requirement, identify costs and to seek approval of the estates SMT.

SHTMs

The SHTMs in question are as follows:

02-01 - Medical Gas Pipeline Systems (MGPS)
03-01 - Ventilation for Healthcare premises
04-01 - Water Safety for Healthcare premises
06-01 - Electrical Service supply and distribution
06-02 - Electrical safety guidance for Low Voltage (LV)
06-03 - Electrical safety guidance for Low Voltage (HV)
08-07 - Confined Spaces policy & guidance.

Current Topics Tendered

National Procurement has delivered a framework of support where they have already tendered the AE services above for NHSScotland Boards. As such the following costs have been identified for GG&C:

02-01 – Medical Gas Pipeline Systems (MGPS) - £15,332
03-01 – Ventilation for Healthcare premises - £15,332 *
04-01 – Water Safety for Healthcare premises - £17,600 *
06-01 – Electrical Service supply and distribution - £12,413
06-02 - Electrical safety guidance for Low Voltage (LV) – £see above
06-03 - Electrical safety guidance for Low Voltage (HV) - £see above
08-07 - Confined Spaces policy & guidance - £16,079 *

Total Cost - £76,756 per annum of which **£49011** is a cost pressure not previously funded. This contract is in place for 3 years with the option to extend for a further 2 years.

Turner FM have been selected and appointed as being the preferred contractor for AE Services in SHTM 03-01, 06-01, 06-02 & 06-03 whist Legionella Control International have been selected for SHTM 04-01.

GG&C has not appointed an AE for 08-07 as yet.

On a 'pro-rata' basis these costs should be shared on a site by site basis on the following % splits:

02-01 only	**All other SHTMs**
GRI – 30%	GRI – 35%
SGH – 15%	SGH – 10%
RAH – 15%	RAH – 10%
IRH – 15%	IRH – 10%
GRH – 15%	GRH – 10%
GDH – 10%	GDH – 10%
	Partnerships – 15%

The SGH is the retained estate only. There may be an additional cost to support the NSGH.

Planned Future topics

The following SHTM's will also require AE Services over the next few months and will need to be tendered locally;

SHTM 08-08 – Pressure Systems

SHTM 08-03 – Bedhead Services

SHTM 08-05 – Automatic Controls

Alan Gallacher
Sector Estates Manager (Clyde)
22 September 2014.

From: Loudon, David
To: "James.White[redacted]
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus
Date: 23 September 2014 16:47:00
Attachments: Infrastructure Investment Board - Briefing Paper.pdf
image001.png
image002.png
image003.png
image004.png

James,

Please see the attached. I will bring the presentation on a memory stick to the meeting. Can you confirm that you will supply a laptop, data projector and screen.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: James.White@[redacted]
Sent: 23 September 2014 14:12
To: Loudon, David
Cc: MacLennan, Aileen
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

David

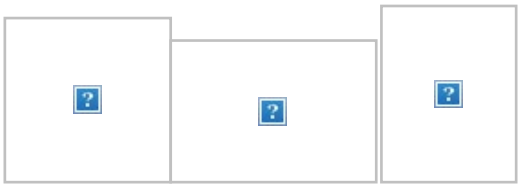
Many thanks.

Kind regards

James
James H White
Senior Policy Manager
Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit
The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastructure Investment Unit: www.scotland.gov.uk/Topics/Government/Finance/18232

In 2014 Scotland Welcomes the World

To find out more click here



Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: Loudon, David [redacted]
Sent: 23 September 2014 12:50
To: White JH (James)
Cc: MacLennan, Aileen
Subject: Re: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

Will be with you by end of business today

David

Sent from my iPhone

On 23 Sep 2014, at 11:57, "James.White@[redacted] wrote:

> Hallo David
>
> Are you able to provide the briefing paper for next week's Infrastructure Investment Board.
>
> Kind regards
>
> James
> James H White
> Senior Policy Manager
> Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit
> The Scottish Government
> Area 3B South
> Victoria Quay
> Edinburgh
> EH6 6QQ
> [redacted]
> website: www.scotland.gov.uk
> Infrastructure Investment Unit:
> www.scotland.gov.uk/Topics/Government/Finance/18232
> <image006.png>
>
> In 2014 Scotland Welcomes the World
> To find out more click here
> <image007.png> <image008.png> <image009.png>
>
> Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: White JH (James)
Sent: 11 September 2014 15:51
To: 'Loudon, David'
Cc: MacLennan, Aileen
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

David

Many thanks for letting me know that Aileen will be attending on 30 September with you.

Would you be able to provide the briefing paper by Monday, 22 September.

Many thanks for your help and I look forward to seeing you and Aileen on 30 September.

Kind regards

James

James H White
Senior Policy Manager
Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit
The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastructure Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232
<image006.png>

In 2014 Scotland Welcomes the World
To find out more click here
<image007.png><image008.png> <image009.png>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: Loudon, David [redacted]
Sent: 11 September 2014 15:23
To: White JH (James)
Cc: MacLennan, Aileen
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

James

Can you please note that I will be accompanied by my colleague Aileen McLennan, Director of Diagnostics who will present on the lab building.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: James.White@[redacted]
Sent: 10 September 2014 12:28
To: Loudon, David
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

Hallo David

I think that the Board would appreciate both a presentation and a briefing paper.

In relation to the Laboratory, the Board would be interested in the operation of the facility since it opened and what lessons have been learned from the Post Project Evaluation.

Kind regards

James

James H White
Senior Policy Manager
Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit
The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastructure Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232
<image010.jpg>

In 2014 Scotland Welcomes the World
To find out more click here
<image011.jpg><image012.jpg> <image013.jpg>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: Loudon, David [redacted]
Sent: 10 September 2014 12:11
To: White JH (James)
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

James

I wasn't intending to provide a briefing paper but a presentation instead based on our previous discussions. I can provide a paper if you wish but do you also still require a presentation?

Can you also provide me with more information regarding the detail expected on the completed laboratory building.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: James.White@[redacted]
Sent: 10 September 2014 11:59
To: Loudon, David
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

David

Apologies for not asking before now, but would you be able to provide an update briefing paper for circulation to the IIB members before the IIB on 30 September?

In addition, the meeting is now starting at 12:30 hours with the discussion on the South Glasgow Hospitals starting about 12:45 hours, when you would be invited to join the discussion; grateful if you could confirm that you will be able to attend for the earlier starting time.

Kind regards

James

James H White
Senior Policy Manager
Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit
The Scottish Government
Area 3B South

Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastructure Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232
<image010.jpg>

In 2014 Scotland Welcomes the World
To find out more click here
<image014.jpg><image012.jpg> <image013.jpg>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: White JH (James)
Sent: 26 August 2014 16:52
To: 'Loudon, David'
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

David

I hope that the following is helpful.

Role of the Infrastructure Investment Board

1. The Infrastructure Investment Board's role is to:
   - provide strategic scrutiny of high-value major infrastructure projects at an early stage of development;
   - use robust management information to review the governance and delivery of the infrastructure investment programme, including the Infrastructure Investment Plan, and, where appropriate, specific major projects;
   - provide advice to Ministers about capital investment priorities to inform Ministerial decision-making;
   - review portfolio-level governance and decision-making structures for capital projects to ensure these are fit for purpose; and
   - explore new financing models (working with the Scottish Futures Trust).

Composition of the Infrastructure Investment Board

2. The Infrastructure Investment Board comprises:
   - Director-General Finance (Alyson Stafford);
   - Director-General Communities and Governance (Sarah Davidson);
   - Director of Commercial and Procurement (Alastair Merrill);
   - Head of the Infrastructure Investment Unit (Andrew Watson);
   - a senior economist nominated by the Chief Economic Adviser (Gary Gillespie / Graeme Roy);
   - Chief Executive of the Scottish Futures Trust (Barry White);
   - Non-Executive Director (Andrew Thin); and
   - Chief Executive of Transport Scotland (David Middleton).

Kind regards

James

James H White
Senior Policy Manager
Finance Directorate| Financial Strategy Division| Infrastructure Investment Unit

The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastucture Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232
<image006.png>

In 2014 Scotland Welcomes the World
To find out more click here
<image007.png><image008.png> <image009.png>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: Loudon, David [redacted]
Sent: 19 August 2014 18:36
To: White JH (James)
Cc: Baxter M (Mike) (Health); Hanlon S (Steven); Mackay S (Scott); Hirst, Allyson
Subject: Re: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

James

Thanks for you reply. Can you also provide some background information on the members.

Regards

David

Sent from my iPhone

On 19 Aug 2014, at 16:51, "James.White@[redacted] wrote:

> David
>
> Apologies for not emailing before now.
>
> The Infrastructure Investment Board will be interested in:
>
> - progress to date with the adult and children's hospital;
> - the Laboratory Block and its use since it became operational;
> - what remaining risks remain with delivery of the adult and children's hospital; and
> - the project management arrangements for the project which have been recognised as a model of best practice.
>
> I hope that this is helpful.
>
> Kind regards
>
> James

James H White
Senior Policy Manager
Finance Directorate| Infrastructure Investment Unit
The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastucture Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232
<image005.png>

In 2014 Scotland Welcomes the World
To find out more click here
<image006.png> <image007.png> <image008.png>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

From: Loudon, David [redacted]
Sent: 01 August 2014 14:06
To: White JH (James)
Cc: Baxter M (Mike) (Health); Hanlon S (Steven); Mackay S (Scott); Hirst, Allyson
Subject: RE: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

James,

I would be pleased to attend the meeting and present to the IIB. Can you provide a steer on the key areas that will of interest to the IIB.
Can you provide some background information on the members.

Regards

David

David W. Loudon, MCIOB, CBIFM, MBA
Project Director - South Glasgow Hospitals Development / Director of Facilities and Capital Planning - Designate
NHS Greater Glasgow & Clyde
New South Glasgow Hospital Site Offices
Top Floor, NHS Offices
Hardgate Road
Glasgow
G51 4SX

[redacted]

From: James.White[redacted]]

Sent: 01 August 2014 13:45
To: Loudon, David
Cc: Mike.Baxter[redacted] Steven.Hanlon[redacted]
Scott.Mackay@[redacted]
Subject: Infrastructure Investment Board - meeting on 30 September 2014 - new South Glasgow Hospitals campus

Hallo David

As you may be aware the Infrastructure Investment Board, has been following with interest progress with the new South Glasgow Hospitals Campus. It last received an update on progress with the Campus from Mike Baxter in October 2012.

It would be appreciated if you could confirm if you are available to attend the Infrastructure Investment Board on 30 September; the meeting is scheduled for between 2 and 4 pm, however, the South Glasgow Hospitals Campus would be taken within the first hour of the meeting. In addition, video conference facilities are available. The likely format would be a 10-15 progress update presentation followed by a discussion with the Board members. Given the recognition that this project is receiving and the level of investment, the Board is looking forward to hearing from you and your team.

In the first instance, I should be grateful if you could confirm your availability.

I look forward to hearing from you in due course.

Kind regards

James

James H White
Senior Policy Manager
Finance Directorate| Infrastructure Investment Unit
The Scottish Government
Area 3B South
Victoria Quay
Edinburgh
EH6 6QQ
[redacted]
website: www.scotland.gov.uk
Infrastucture Investment Unit:
www.scotland.gov.uk/Topics/Government/Finance/18232

<image001.jpg>

In 2014 Scotland Welcomes the World
To find out more click here
<image002.jpg><image003.jpg> <image004.jpg>

Save paper and power - do you need to print this email or any attachments? If so please print double sided.

Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

********** **********

This email has been received from an external party and

has been swept for the presence of computer viruses.

****

The original of this email was scanned for viruses by the Government Secure Intranet virus scanning service supplied by Vodafone in partnership with Symantec. (CCTM Certificate Number 2009/09/0052.) This email has been certified virus free.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

****
NHSGG&C Disclaimer

The information contained within this e-mail and in any attachment is confidential and may be privileged. If you are not the intended recipient, please destroy this message, delete any copies held on your systems and notify the sender immediately; you should not retain, copy or use this e-mail for any purpose, nor disclose all or any part of its content to any other person.

All messages passing through this gateway are checked for viruses, but we strongly recommend that you check for viruses using your own virus scanner as NHS Greater Glasgow & Clyde will not take responsibility for any damage caused as a result of virus infection.

****

This email was scanned by the Government Secure Intranet anti-virus service supplied by Vodafone in partnership with Symantec. (CCTM Certificate Number 2009/09/0052.) In case of problems, please call your organisations IT Helpdesk.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

********** **********

This email has been received from an external party and

has been swept for the presence of computer viruses.

****

The original of this email was scanned for viruses by the Government Secure Intranet virus scanning service supplied by Vodafone in partnership with Symantec. (CCTM Certificate Number 2009/09/0052.) This email has been certified virus free.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

****
NHSGG&C Disclaimer

The information contained within this e-mail and in any attachment is confidential and may be privileged. If you are not the intended recipient, please destroy this message, delete any copies held on your systems and notify the sender immediately; you should not retain, copy or use this e-mail for any purpose, nor disclose all or any part of its

content to any other person.

All messages passing through this gateway are checked for viruses, but we strongly recommend that you check for viruses using your own virus scanner as NHS Greater Glasgow & Clyde will not take responsibility for any damage caused as a result of virus infection.

****

****

NHSGG&C Disclaimer

The information contained within this e-mail and in any attachment is confidential and may be privileged. If you are not the intended recipient, please destroy this message, delete any copies held on your systems and notify the sender immediately; you should not retain, copy or use this e-mail for any purpose, nor disclose all or any part of its content to any other person.

All messages passing through this gateway are checked for viruses, but we strongly recommend that you check for viruses using your own virus scanner as NHS Greater Glasgow & Clyde will not take responsibility for any damage caused as a result of virus infection.

****

Number 2009/09/0052.) This email has been certified virus free.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

****
NHSGG&C Disclaimer

The information contained within this e-mail and in any attachment is confidential and may be privileged. If you are not the intended recipient, please destroy this message, delete any copies held on your systems and notify the sender immediately; you should not retain, copy or use this e-mail for any purpose, nor disclose all or any part of its content to any other person.

All messages passing through this gateway are checked for viruses, but we strongly recommend that you check for viruses using your own virus scanner as NHS Greater Glasgow & Clyde will not take responsibility for any damage caused as a result of virus infection.

****

This email was scanned by the Government Secure Intranet anti-virus service supplied by Vodafone in partnership with Symantec. (CCTM Certificate Number 2009/09/0052.) In case of problems, please call your organisations IT Helpdesk.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

********** **********

This email has been received from an external party and

has been swept for the presence of computer viruses.

****

The original of this email was scanned for viruses by the Government Secure Intranet virus scanning service supplied by Vodafone in partnership with Symantec. (CCTM Certificate Number 2009/09/0052.)
This email has been certified virus free.
Communications via the GSi may be automatically logged, monitored and/or recorded for legal purposes.

SOUTH GLASGOW UNIVERSITY HOSPITAL AND ROYAL HOSPITAL FOR SICK CHILDREN

Briefing paper for the Infrastructure Investment Board

1. Introduction

NHS Greater Glasgow and Clyde (The Board) developed an Acute Services Strategy to modernise the acute adult health service within its area following its Acute Services Review (ASR). The second phase of the strategy related to the provision of a new Adult Acute Hospital, a new Children's Hospital, Laboratory facilities, and associated support areas, other site facilities and infrastructure on the Southern General Hospital site.

The first phase of the project was the design and build of a new Laboratories Facility which would house services from across the city. The new Laboratories Facility which was fully operationalised in July 2012 is detached but physically linked to the new hospitals via a service tunnel. The laboratories block accommodates haematology, biochemistry, medical genetics, microbiology, and mortuary and post mortem services.

The new Adult Hospital will be one of the most advanced acute hospitals in the UK with facilities including 1,109 adult beds, and the biggest critical care complex in Scotland catering for an estimated 110,000 A&E attendances per year. This will provide some 1,700 beds on campus to meet the healthcare needs of the local, regional and national population that the hospital campus serves. The Adult Hospital sits alongside and will be physically linked to the new Children's Hospital, the Institute of Neurosciences and the new Teaching & Learning and Office Accommodation Facilities.

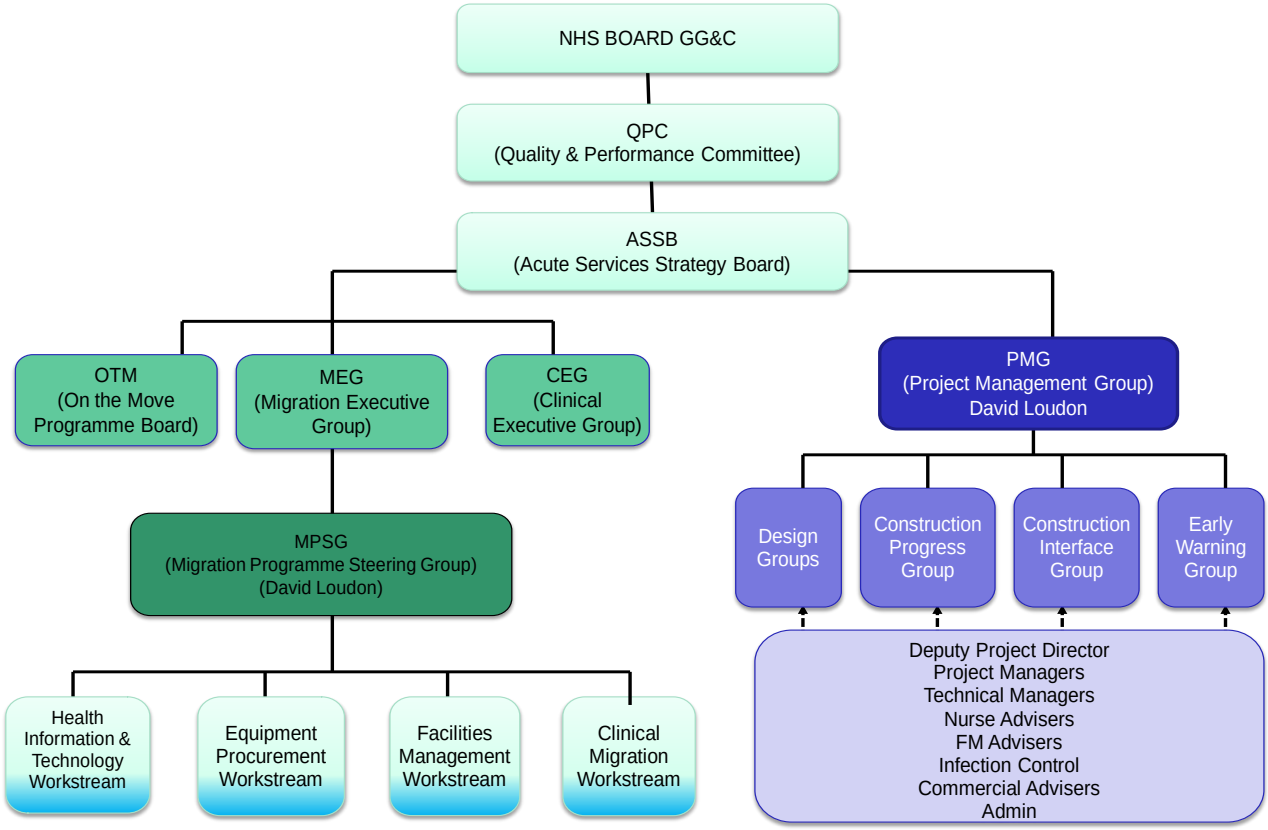
The new 256-bed Children's Hospital will be integrated with maternity and adult hospital services to ensure immediate access to specialist services to provide the highest quality and safety standards for mothers, children and babies. The Adult and Children's Hospitals have their own unique identities and entrances however have been constructed as a single integrated building.

2. Progress to date

The construction of the hospitals commenced in January 2011 and work remains on programme to be handed over to NHS Greater Glasgow & Clyde on the earlier target completion date of 26th January 2015. The construction activities underway are primarily focused on the fit out of areas, final decoration, commissioning of services and external landscaping. Subsequently, the project team focus is moving away from reviewing construction activities to the quality checking of completed rooms/areas and the planning of all the commissioning and migration activities required to ensure that the buildings are ready for the transfer of services into the new hospitals and the operationalisation of the hospitals. To ensure that there is early identification of any slippage to programme the NHS Project Team regularly review the contractor programmes and have a series of regular meetings with the contractor.

3. Project Structure and Governance Arrangements

The New South Glasgow Hospitals Project structure and governance arrangements were established at the inception of the project and have evolved and changed over time to ensure that they meet the needs and demands for each stage of the project. The project is subject to the OGC Gateway Review process which ensures that the project arrangements are appropriate and that the project is ready to move on to the next stage. Gateway Reviews are carried out in advance of key decision points within the project's lifecycle of which there are 5. To date the project has completed all the Gateway Reviews in relation to the Laboratories Facility and Gateway Reviews 1 to 3 in relation to the new hospitals.



David Loudon
Project Director - NSGH
22nd September 2014

From: Kane, Mary Anne
To: Maclean, Alistair; Hunter, William
Subject: FW: HSMMQuarterly Inspection Composite Report - Jonathan Best
Date: 23 September 2014 14:37:00
Attachments: HSMMQuarterly Inspection Composite Report - Jonathan Best.msg

---

Alistair/Billy
can I ask you to have a look at the attached report please - which I have just received.
I am meeting Jonathan Best about this tomorrow and will be advising him that I will receive from both of you a full report on each item identified with details of what action we have taken and if appropriate why action has not occurred.
Sorry to drop this on you at short notice hwoever I am just looking at this myself and I am concerend obviously at the implications here stated that Facilities constantly being chased is detrimental to the Regional Directorate staffs health.
Can I ask you tomorrow morning to confirm if local managers have escalated anything to you personally?
SEM's personally ?
FM Site Managers personally ?

Please provide a report by next Tuesday on the content
Thanks
Mary Anne

Regional Services Directorate
Health and Safety Services
Workplace Quarterly Inspections
July 2014

In line with Health and Safety Services obligations to the Acute Divisions Operational Management Group requests were made to 30 Health and Safety Management Manual holders areas within the Directorate to forward up to date copies of their Health and Safety Quarterly Inspections.
The following report highlights area of **significant** risk as contained within the respective checklists received, it is accepted that due to the time lapse in checks being undertaken and report being completed some issues may already have been resolved.
In all instances it is reasonable to presume that the risks or concerns highlighted should already have been escalated within the respective service management line for information or action where applicable.

Returns:

Neurology INS SGH	Plastics OPD GRI
Neurophysiology INS SGH	Plastics Pre Operative Assessment GRI
Renal Level 9 East WIG	Beatson OPD
Clinic P Vic ACH	Burns Ward 45 GRI
Max Fax Lab INS SGH	Plastics Ward 48 GRI
Ward 66A (decant) INS SGH	Plastics Ward 47 GRI
CIC GGH	Beatson Ward B4
Spinal Edenhall SGH	Renal G6 RDU WIG
Beatson MDCU (Clinic)	Renal G6 PDU WIG
Beatson MDCU (Office)	Prosthetics Lab Max Fax GRI
Ward 60 INS SGH	Beatson Ward B3
Beatson Records	Beatson Clinical Research Unit
Ward 66A (Return) INS SGH	Beatson Ward B3
Renal 12/13/25 GRI	Haematology Clinic GRI

Reported areas of significant risk:

Unit	Month	Issue	Risk(s)	Further info:
OPD Neuro INS	April	Temp and Humidity	Breach in Regulations Stress/Ill health	Historic issue – Estates aware
		Lack of sockets	Overload Trip hazard use of multi gang	Estates notified
		Lack of seating within waiting room	Reputational	Service review required
		Lack of waste holding bins	Overflow/Cross infection	Discuss with Facilities
Ward 66A (Decant area)	April	Lack of PPM	Breach in Regulations Risk of Infection	Raise with Facilities
Plastics Pre Op GRI	April	Uneven Floor Lack of staff storage	Breach in Regulations Trip Inability to maintain cleaning regime Breach in Regulations	Historic issue Estates and Capital aware Service review required
Plastics OPD GRI	April	Uneven Floor Temp/Humidity	Breach in Regulations Trip Inability to maintain cleaning regime Breach in Regulations Stress/Ill health	Historic issues Estates and Capital aware

Renal 12/13/25 GRI	May	Temp/Humidity Emergency call system broken Uneven floor	Breach in Regulations Stress/Ill health Breach in Regulations Clinical Risk Breach in Regulations Trip Inability to maintain cleaning regime	Historic issues Estates aware Historic issues Estates aware
Plastics Ward 48 GRI	May	Temp/Humidity	Breach in Regulations Stress/Ill health	Historic issues Estates aware
Plastics Ward 47 GRI	May	Temp/Humidity	Breach in Regulations Stress/Ill health	Historic issues Estates aware
Haem Unit GRI	May	Temp/Humidity Dirty Vents Lack of storage	Breach in Regulations Stress/Ill health Breach in Regulations Trip or impact	Historic issues Estates aware Service review required
Beatson B4	June	Lack of staff lockers	Breach in Regulations	Service review required
Renal G6 RDU	June	Temp/Humidity Uneven floor	Breach in Regulations Stress/Ill health Breach in Regulations Trip Inability to maintain cleaning regime	Historic issues Estates aware

Renal G6 PDU	June	Damaged fire doors Damaged flooring	Breach in Regulations Trip Inability to maintain cleaning regime Breach in Regulations	Historic issues Fire and Estates aware
Beatson B3	June	Security doors Insufficient uplift of soiled linen	Security risk Infection	Estates aware Service review with Facilities required
Max Fax Lab SGH	June	Lack of storage for models	Breach in legal requirements	Local measures currently in place - Service review being undertaken
CIC	June	Uneven flooring Damp walls Inadequate ventilation shower areas Boiler trip Non Comp sinks	Breach in Regulations Trip Inability to maintain cleaning regime Ill health Breach in Regulations Ill health Infection Control Guidelines	Historic issues Estates and Capital aware Service review required
RDU IRH	June	Uneven floors Fire door gaps Lack of PPM for Ventilation Temp Humidity	Breach in Regulations Trip Inability to maintain cleaning regime Breach in Regulations Breach in Regulations Breach in Regulations	Estates aware Historic issues Fire and Estates aware Estates aware Estates aware Service review required

		Lack of equipment PPM (Chairs) Leak water from drainage system	Ill health Breach in Regulations Breach in Regulations Infection Control Slip Inability to maintain cleaning regime	Estates aware
Spinal Edenhall SGH	June	Non compliant sinks Temp Humidity	Infection Control Guidelines Breach in Regulations Ill health	Estates aware Service review required Estates aware
Ward 60 INS SGH	July	Uneven floors Non compliant sinks Oxygen points/flow meters	Breach in Regulations Trip Inability to maintain cleaning regime Infection Control Non compliant with SHTM 02	Estates aware Service review required Estates and Medical Physics aware and involved

The points above are a mixture of breaches of statutory requirements in relation to Health and Safety and associated Legislation, breaches of Safety Action Notices issued by Health Facilities Scotland, NHSGG&C organisational policy and Health and Safety Executive Notices, as such leave the Directorate initially and the Organisationally ultimately vulnerable to prosecution and or civil claim.
Whilst in all of the cases the respective services utilise a dynamic risk assessment approach this should be seen as short term fix only, with a localised agreed plan involving where required other Directorates e.g. Facilities to ensure statutory and policy compliance.

Locally Service managers should consider reviewing the local risk registers and where required adding the identified risks as above, discussion may also be required as to possible inclusion to the Directorate or Divisional Registers.
I should advise that a number of the significant risks identified and noted within this report are long standing with little or no progress made to find a resolution.

Summary:

The quarterly inspections continue to be undertaken regularly.
All staff and managers should be aware that maintaining risk escalation within the management structure is paramount to the success of the inspection checklist programme.
Again I have to report that there remain areas of Significant Risk identified within this and previous quarterly checklist reports that are outwith the control of local staff and service managers e.g. pre and planned maintenance of air conditioning units and vents, tears or breaks in flooring etc these challenges have and will remain to have a negative impact on internal and external environmental audits e.g. HEI through no fault of the Ward/Service.
In essence the affected areas are at risk of being “marked down” in environmental audits for reasons that are out with their local control.

In addition through dialogue with Health and Safety Management Manual holders or Deputies the reported time resource spent in continually “chasing up” e.g. Facilities for repairs etc is impacting on the individuals clinical or management time spent on the Ward.
We remain cognisant of the current Organisational financial situation, a reasonable approach to addressing any workplace concerns would be assessed based on risk, risk of injury/service disruption etc it may not always be possible to resolve every issue immediately but it’s vital that we communicate to staff that the issues being highlighted are not being ignored.

Please be cognisant that by including or adding any risk to a risk register at any level within the Organisation does not remove the requirement to ensure compliance with legislation, risk registers are a means of documenting risk, and subsequently identifying and detailing actions to reduce the risk to an acceptable level. They are not and must not be used as a means of parking areas of significant risk in perpetuity.

We retain a positive level of staff input to the health and safety process, this is reflected in the health and safety management manual and policy implementation audits respectively, returns for both audits within the Directorate are of a high standard.

With the movement of services to the New South Glasgow Hospital provision there will be an impact on the Health and Safety Management Manual (and quarterly inspection) process, services may wish to factor into their forward planning how the transfer of services will impact on the operational safety processes and what changes (if any) are required.

Joe Paterson
Lead Health and Safety Practitioner
29th July 2014

From: Kane, Mary Anne
To: Hunter, William
Subject: FW: ACH Energy calcs
Date: 23 September 2014 17:32:00
Attachments: FW NVSH Energy Models.msg
FW NVSH Energy Models.msg
NVSH Energy Model calcs.msg
FW NVSH Energy Model calcs.msg
RE HFS Conference - 6th7th Nov.msg
Energy Calcs.msg
Letter - Glasgow Healthcare Facilities Ltd - New Victoria Energy Calculations 12-13 - acceptance - 070113.doc

---

Example of lack of follow up with Alan Billy - This is a PFI contract we should have had this closed down

---

From: Machell, Mandy
Sent: 23 September 2014 15:28
To: Kane, Mary Anne
Cc: Murray, Lorna
Subject: RE: ACH Energy calcs

Mary Anne,

Attached are the emails that have been sent directly to Alan that in the bulk of the cases, contain all previous correspondence.

He was original emailed back at the end of June, and then during August, and three times this month.

27th June, 12.31
27th June, 13.34 - with contract documentation
7th Aug, 16.27
5th Sept, 18.15 - Billy sent separate email directly afterwards noting the previous communication sent to Alan, as omitted to cc. him in
10th Sept, 16.40
17th Sept, 11.26 - Billy copied in, Elaine asked to bring it to his attention

As noted in my emails to Alan, I have checked the contractual stuff, I just need clarification that the volume of energy used seems reasonable - 20min task.
In terms of sign off, attached is a standard letter used last year when the New VIC calcs were signed off. It is a tick box exercise to confirm the calcs, and then the gainshare/painshare amounts are processed via the contract.

Last years calcs were checked and acknowledged by Alan within a 4 week period.

I would love to get this closed down before I finish up, however it is currently on the to do/outstanding paper that will be passed to Lorna.
To date I have had not one response to any email communication. He responded to my HFS conference email on the same day, and I 'threatened' not to book him on until he gave me back the energy calcs, but even that didn’t yield a response.

Tomorrow is our monthly meeting with Project Co and this will be another month that this action will be listed as outstanding.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] www.nhsggc.org.uk

From: Kane, Mary Anne
Sent: 23 September 2014 13:12
To: Gallacher, Alan; Machell, Mandy
Cc: Hunter, William
Subject: ACH Energy calcs

Mandy - can I just confirm with you finishing on Friday that last years energy calculations fo rthe ACH have been signed off for the year please ?
If not why not and can this be expediated before Friday please ?

From: Machell, Mandy
To: Gallacher, Alan
Subject: FW: NVSH Energy Models
Date: 27 June 2014 12:30:44
Attachments: Energy Model Calcs - Stobhill April 13(2).xlsm
Copy of Copy of Energy Model Calcs - Victoria April 2013 xlsmv3.xlsm

---

Good afternoon Alan,

Can you please have a look at the attached 2 x excel sheets.

I will check over the application of the targets etc. but would appreciate if it yourself/the energy team can look over the energy values (from the monthly data) and also check whether the degree days are correct.

The Board are required to officially respond within 20 working days to either accept/decline the calcs, so a prompt response would be appreciated to catch all the relevant people during this crazy annual leave period.

Many thanks

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
To: Gallacher, Alan
Cc: Murray, Lorna
Subject: FW: NVSH Energy Models
Date: 27 June 2014 13:34:01
Attachments: Energy Model Calcs - Stobhill April 13(2).xlsm
Copy of Copy of Energy Model Calcs - Victoria April 2013 xlsmv3.xlsm
Schedule Part 18 Energy Section only_inc definitions.doc

Alan - please see the below email.

This accompanies my previous email to you, however asks Project Co. what additional financial info the Board would need to provide as IF the calcs are correct, we would be getting some money back for one site, albeit paying some back in painshare for the other one.

Ryan intends to look at this at the energy meeting next week that I can not attend.
I have attached the relevant bit of the project agreement that includes definitions at the front end.
It would be useful if you could have a quick nosey at this before the meeting so you have an idea of the finer detail.

I am on leave next week, and therefore will not be at the meeting, however I am sure Ryan will summarise discussions for me so that the Board can close this down.

Regards
Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
Sent: 27 June 2014 13:30
To: Roddy Fraser; 'Ryan Whiteford'
Cc: Murray, Lorna
Subject: FW: NVSH Energy Models

Roddy,

Firstly apologies - in this weeks meeting I alluded to the fact that the Board's energy team were reviewing the data. Looking back through my files, that was inaccurate, I hadn't sent the info on.

I have since passed the data on to our Energy lead and the core information that the calcs are based on, will be checked to ensure that the correct base data has been used.

Working on an assumption that the information is correct, can you please clarify what information you would require from the Board to calculate the gainshare (for New VIC) and painshare (for New Stobhill) adjustment. Looking at Sch 18, Part 3, Section 4.6 to 4.8, the average unit cost of energy is required, so presumerably we would require to provide you with the financial information to enable Project Co to work through the AUC (Average Unit Cost) as outlined within 4.10. This is something we haven't had to do before, so a bit of a learning curve for all parties.

Secondly, I am aware that the annual energy targets for 13/14 were set and confirmed, however

reading through Sch 18, Part 3, Section 3 (Adjustments to the Annual Energy Target), there is a load of gibberish in 3.1 that talks about how the target is recalculated using different baseloads. I have tried to work this through logically, but I have doubts that the annual energy target for the forthcoming year is the actual amount calculated for the previous year. If this is the case, there are two options - we either re-look at the 13/14 targets and re-set them (this was the first year we had targets for both hospitals), or we just ensure that going forward they are calculated correctly.

I am on leave next week, and therefore not going to make the energy meeting.
I have very briefly spoken to Ryan about this, albeit he will need to look at the calcs and the contract to make any sense of it. He will take along copies of the schedule to the meeting so the energy team can discuss what info needs to be passed through etc - but in the interim, I will provide them with the attached relevant section also.

I am sure I will be kept in the loop with the discussions that are had, and therefore can progress this on my return.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
To: Gallacher, Alan
Cc: Murray, Lorna
Subject: NVSH Energy Model calcs
Date: 07 August 2014 16:27:04
Attachments: FW NVSH Energy Models.msg
FW NVSH Energy Models.msg

Alan - please see the attached two emails.

The Board have notified Project Co that we were unable to respond within the 20 day timeframe, however I am under pressure to issue a formal acceptance of the calcs, or present any queries etc.

I know that there has been emails about the painshare/gainshare arrangements and subsequently, the contractual documentation was reissued.

Can you please provide an indication as to when you/ the energy team will be able to provide a response?

Regards

Mandy

From: Machell, Mandy
To: Gallacher, Alan
Cc: Murray, Lorna
Subject: FW: NVSH Energy Model calcs
Date: 05 September 2014 18:15:12
Attachments: FW NVSH Energy Models.msg
FW NVSH Energy Models.msg

Alan,

Any update on this.

It is my last meeting with Project Co on 18th Sept before I finish up.
After then, I will need to pass this back to Mary Anne as she will be receiving all my outstanding work elements for this contract.
Am very keen to get this concluded/signed off before then.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
Sent: 07 August 2014 16:27
To: Gallacher, Alan
Cc: Murray, Lorna
Subject: NVSH Energy Model calcs

Alan - please see the attached two emails.

The Board have notified Project Co that we were unable to respond within the 20 day timeframe, however I am under pressure to issue a formal acceptance of the calcs, or present any queries etc.

I know that there has been emails about the painshare/gainshare arrangements and subsequently, the contractual documentation was reissued.

Can you please provide an indication as to when you/ the energy team will be able to provide a response?

Regards

Mandy

From: Machell, Mandy
To: Gallacher, Alan
Subject: RE: HFS Conference - 6th/7th Nov
Date: 10 September 2014 16:39:48
Attachments: image001.jpg

In hindsight, I am tempted to hold you to ransom and say I am not booking your conference until you approve or comment upon the NVSH Energy calcs.

I reckon you should sort your emails by name, go to Machell, Mandy, and have a nosey at the ones from me.
When they are all nicely responded to, ticked off, and filed, then I reckon I will be in a position to find my pen, and add your name to those that are to attend conference.

And……if anyone says otherwise, I will just have to blame my attitude on pregnancy hormones - no one argues with that!

:)

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
Sent: 10 September 2014 16:36
To: Gallacher, Alan
Subject: RE: HFS Conference - 6th/7th Nov

Alan,

Have noted you down for both days, and staying over.

Re. estates and energy guys - I would reckon they would be approved/registered locally as MAK has identified those that are to be sent 'corporately' to cover the organisation.
Others attending from an information/development point of view would be a Billy decision.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Gallacher, Alan
Sent: 10 September 2014 16:17
To: Machell, Mandy
Subject: RE: HFS Conference - 6th/7th Nov

Mandy,

Both days at the event please. I can wear my kilt at the black tie. Hopefully we are going to win some trophies again.

What about staff members who go up on any particular day. A number of the

energy and estates teams go up and down on either the Thursday or Friday?

Regards,

Alan

A. G. Gallacher ***CEng MIMechE, BEng(Hons), DipEM***
Sector Estates Manager (Clyde) &
Energy & Carbon Lead for NHS GG&C

Royal Alexandra Hospital
Corsebar Road
Paisley
PA2 9PN

Inverclyde Royal Hospital
Education Centre Rm 1.03
Larkfield Road
Greenock
PA16 0XN

[redacted]

[redacted]

From: Machell, Mandy [redacted]
Sent: 10 September 2014 16:03
To: Gallacher, Alan
Subject: FW: HFS Conference - 6th/7th Nov

http://www.hfs.scot.nhs.uk/conference-2014/delegate-booking-form/

Hey Alan,

The HFS Conference is running on 6th/7th Nov this year.

Mary Anne has identified that you usually attend, and Billy has no objections to you attending this year if you wish.
Please let me know if you are available to attend, and whether you wish to travel to Perth for both days, or travel up on day 1, stay over night (attend black tie event) and then travel back the following day.

One booking form would then be prepared for all delegates.

Regards

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

From: Machell, Mandy
To: Gallacher, Alan
Cc: Murray, Lorna; McNeil, Elaine; Hunter, William
Subject: Energy Calcs
Date: 17 September 2014 11:25:00
Attachments: FW NVSH Energy Model calcs.msg
RE HFS Conference - 6th7th Nov.msg

Good morning Alan,

I have re-attached the emails (containing other emails) about the energy calcs at ACH's.
Can you please let me know whether you are in a position to comment on these?
The local meeting with Cofely is this Friday, and the monthly performance one is next Wed with Cofely and Project Co.
All outstanding actions after that date will be passed over to MAK/Lorna, as I finish for maternity leave next Friday.

Have tried your number, but you are obviously away from your desk. Can you please either respond to this email (or my previous ones), or give me a buzz.

Elaine - I would appreciate it if you could bring this to Alan's attention also.

Many thanks

Mandy Machell| Project Manager, Facilities Directorate | NHS Greater Glasgow and Clyde
[redacted] | www.nhsggc.org.uk

Roddy Fraser
Glasgow Healthcare Facilities Ltd
2nd Floor, 11 Thistle Street
Edinburgh
EH2 1DF

Date 7th January 2013
Direct Line [redacted]
E-mail alex.mcintyre[redacted]

Dear Roddy

New Victoria Hospital Energy Calculations

We refer to:

1. Part 3 of Part 18 of the Schedule (Energy Payments);
2. New Victoria Hospital Energy Calculations provided electronically to Greater Glasgow Health Board and Glasgow Healthcare Facilities Ltd by Keith Sefton (Head of Estates for New Victoria Hospital, Balfour Beatty Workplace) on 5th November 2012 (see Appendix 1).

Greater Glasgow Health Board has reviewed the data and calculations provided (see Appendix 1) and accepts that the Annual Energy Target for New Victoria Hospital for 2012/2013 is 59.74 GJ/100m³.

Yours faithfully

Alex McIntyre
Director of Facilities
For on and on behalf Greater Glasgow Health Board

From: Powrie, Ian
To: Powrie, Ian
Subject: FW: Estates and Facilities Alert
Date: 24 September 2014 17:21:02
Attachments: EFA 2013 004 (3).pdf

I. Powrie
Sector Estates Manager (NSGH)
Project Team, New South Glasgow Hospitals,
Southern General Hospitals Construction Site,
2nd Floor, Modular Building, Off Hardgate Road, Glasgow,G51 4SX
[redacted]

From: Stewart Ian (NATIONAL SERVICES SCOTLAND) [redacted]
Sent: 21 November 2013 15:44
To: Gerry.Cox [redacted] McInally Iain (NHS AYRSHIRE & ARRAN); Mutch Graham (NHS GRAMPIAN); Bennett David (NHS TAYSIDE); Johnstone Alistair (NHS DUMFRIES & GALLOWAY); Bruce David (NHS TAYSIDE); Bryson David (NHS DUMFRIES & GALLOWAY); Davidson Graham (NHS GRAMPIAN); Conway Mark (NHS TAYSIDE); MacDonald Robert (NHS HIGHLAND); Wilson Alan (NHS FIFE); O'Brien Geraldine (NATIONAL SERVICES SCOTLAND); Powrie, Ian; McLaughlan Edward (NATIONAL SERVICES SCOTLAND); Gallacher, Alan; Douglas, Brian; Gillespie Brian (NHS FIFE); Leiper James (NHS FIFE); Barr Bruce (NHS HIGHLAND); Binnie Conrad (NHS FORTH VALLEY); Browning David (NHS LANARKSHIRE); Martin David (STATE HOSPITALS BOARD FOR SCOTLAND); Arkley Gary (NHS BORDERS); Stewart Donald (NHS WESTERN ISLES); Green Eric (NHS HIGHLAND); Bain Ernie (NHS LOTHIAN); Mortimer Gary (NHS GRAMPIAN); Bryden Ian (NHS DUMFRIES & GALLOWAY); Dapre Kathryn (NATIONAL SERVICES SCOTLAND); Hogg Paul (NHS NATIONAL WAITING TIMES BOARD)
Cc: Wong Andrew (NATIONAL SERVICES SCOTLAND)
Subject: Estates and Facilities Alert

Those of you who have attended recent meetings of SETAG or the National Water Services Advisory Group will be aware of recent problems with water contaminated with bacteria that formed the basis of a Report.

This has now materialised as an Estates and Facilities Alert Ref: EFA/2013/004 issued on 19th November 2013. Andrew Wong has suggested that this should be circulated to you all and I now have pleasure in doing so.

Kind regards,

Ian Stewart
Project Manager
Engineering & Environment
Health Facilities Scotland
NHS National Services Scotland

3rd Floor
Meridian Court
5 Cadogan Street
Glasgow
G2 6QE
Telephone: [redacted]

www.hfs.scot.nhs.uk
Please consider the environment before printing this email.

Estates and Facilities Alert

Department of Health

Health Facilities Scotland

Department of Health, Social Services and Public Safety

GIG CYMRU NHS WALES Partneriaeth Cydwasanaethau Shared Services Partnership

Action

Ref: EFA/2013/004 **Issued: 19 November 2013**

Device

Cold water storage tanks

Problem

The use of uncapped PVC-U pipes (or similar) within cold water tanks as a support structure for the lid is likely to lead to stagnation and harbouring of harmful micro-organisms.

Action

- Inspect suspect tanks for hollow pipes used as a support structure.
- Replace with solid structures as the preferred option.
- Alert tank manufacturers / installers who use hollow pipe supports.

Action by

- Managers and staff responsible for the procurement, supply and maintenance of cold water tanks.
- Water Safety Groups

Contact

Enquiries about specific cold water tanks should be directed to the relevant supplier, installer or contractor.

A52714092
HFS1502.001 / EFA / IRIC / Version 7 / 23.09.2013

Problem

1. Contamination of water supplies has been found in two recent projects within NHS Scotland. Extensive testing traced the source to the cold water storage tanks which gave TVC (Total Viable Count) readings for *Pseudomonas* readings in excess of 500cfu/100ml (after 72-hour incubation). TVC readings fell to 0cfu/100ml immediately after disinfecting the tanks but reverted to high levels following re-testing later.

2. Construction of the tanks utilised vertical 4 inch PVC-U pipes to support the lid, held in position by strategically placed cross-members (see Appendix, Photo 1), a permanent tank design adopted by at least three manufacturers.

3. The pipes were saw-cut to length with the top supporting the lid and the base sitting directly on the tank floor. Since the ends of the pipes were not sealed, water was able to seep into and out of the pipes as the tank water level varied, providing near stagnant conditions for micro-organism growth while at the same time preventing effective disinfection. When the tank was drained and a pipe dislodged, detritus spilled out, further supporting the conclusion that this was almost certainly the source of the contamination.

4. Replacing the pipes with solid supports proved successful in eliminating the source of contamination (see Appendix, Photo 2).

Action

5. If there is any reason to suspect a water tank as a source of micro-organism contamination, it should be inspected for uncapped and semi-submersed hollow pipes (or similar) used as a support structure. These should be removed to eliminate possible contamination and replaced with ‘clean’ solid supports, i.e. ones without cavities, crevices or details allowing water to stagnate and harbour micro-organisms.

6. Tank manufacturers and installers who employ hollow pipe supports in their cold water tanks should be alerted to the issues highlighted in this alert.

Suggested Onward Distribution

- Authorising Engineers (Water)
- Responsible, Authorised & Competent Persons (Water)
- Capital Planning & Design
- Estates/Facilities
- Health & Safety
- Hospices
- Infection Control Staff
- Risk Management

Appendix

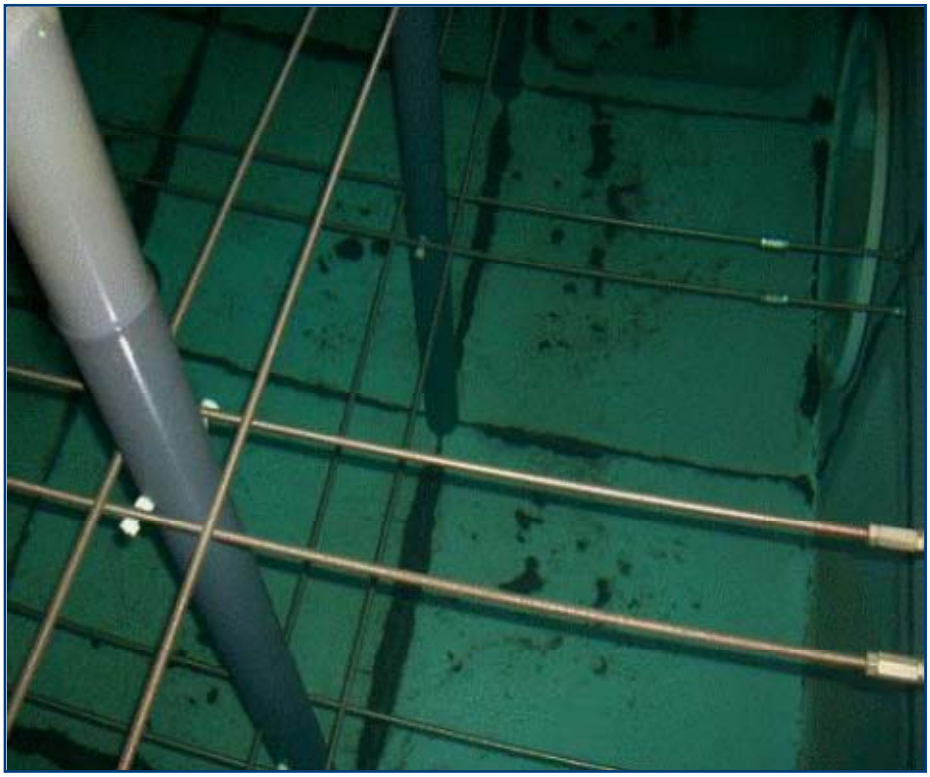


Photo 1
Cold water storage tank interior as constructed
(uncapped vertical PVC-U pipe held in position by cross members)

Photo 2
Cold water storage tank as altered
(solid vertical lid supports)

Additional information for Scotland

The above sections of this Alert were compiled by Health Facilities Scotland and distributed nationally without modification.

Useful guidance in Scotland may be found in:

1) Guidance for neonatal units (NNUs) (levels 1, 2 & 3), adult and paediatric intensive care units (ICUs) in Scotland to minimise the risk of Pseudomonas aeruginosa infection from water: HFS, HPS and Pseudomonas aeruginosa and Water (Scotland) Group http://www.documents.hps.scot.nhs.uk/hai/infection-control/guidelines/pseudomonas-2013-06.pdf

2) CEL 08 (2013) *Water sources and potential infection risk to patients in high risk units – revised guidance,* The Scottish Government, 3 May 2013 http://www.sehd.scot.nhs.uk/mels/CEL2013_08.pdf

3) Scottish Health Technical Memorandum SHTM 04-01 *Water safety for healthcare premises* Part A*: Design, installation and testing;* Part B*: Operational management,* Health Facilities Scotland, NHS National Services Scotland, March 2013 http://www.hfs.scot.nhs.uk/publications/1367575681-Part%20A%20version%201.4.pdf and http://www.hfs.scot.nhs.uk/publications/1367575758-Version%201.4%20Part%20B.pdf

All requests regarding return, replacement or modification of the equipment mentioned in this alert should be directed to the relevant supplier or manufacturer. Other enquiries (and adverse incident reports) in Scotland should be addressed to:

Incident Reporting & Investigation Centre (IRIC)

NHS National Services Scotland, Gyle Square, 1 South Gyle Crescent, Edinburgh EH12 9EB

Tel: 0131 275 7575 Fax: 0131 314 0722 Email: nss.iric@nhs.net

Report options are available on the HFS website at http://www.hfs.scot.nhs.uk/online-services/incident-reporting-and-investigation-centre-iric/how-to-report-adverse-incidents/

Further information about reporting incidents can be found in CEL 43 (2009) or by contacting IRIC at the above address.

From: Loudon, David
To: Kane, Mary Anne; Curran, Anthony
Subject: Fwd: V3 Struct Chart
Date: 02 October 2014 15:10:41
Attachments: Governance Chart DL v3.pptx
ATT00001.htm

---

can you please review and let me know if I have missed anything from our discussions regarding the proposed FM & CP structure. Only going down to GM level at this stage.

Need your response by 5pm today.

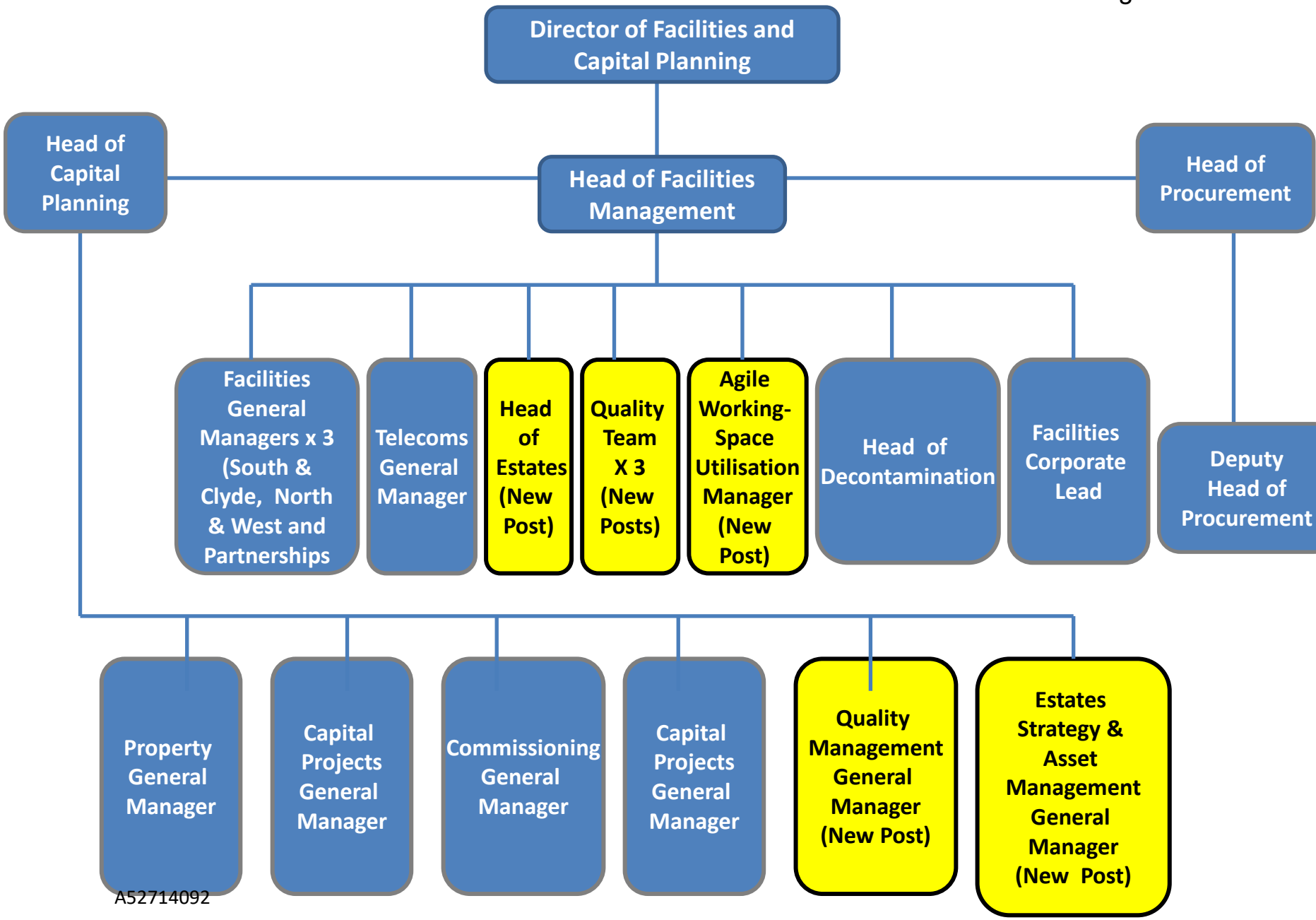
Thanks

David

Sent from my iPad

Begin forwarded message:

From: "Frew, Shiona" <[redacted]
Date: 2 October 2014 14:55:32 BST
To: "Loudon, David" [redacted]
Subject: V3 Struct Chart


Director of Facilities and Capital Planning
Head of Capital Planning
Head of Facilities Management
Head of Procurement
Facilities General Managers x 3 (South & Clyde, North & West and Partnerships
Telecoms General Manager
Head of Estates (New Post)
Quality Team X 3 (New Posts)
Agile Working- Space Utilisation Manager (New Post)
Head of Decontamination
Facilities Corporate Lead
Deputy Head of Procurement
Property General Manager
Capital Projects General Manager
Commissioning General Manager
Capital Projects General Manager
Quality Management General Manager (New Post)
Estates Strategy & Asset Management General Manager (New Post)

Bundle of documents for Oral hearings commencing from 13 May 2025 in relation to the Queen Elizabeth University Hospital and the Royal Hospital for Children, Glasgow

Bundle 46 – Volume 1
Correspondence on Potentially Deficient Features

A52714092