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**Authorising Engineer  
(Ventilation) - Annual  
Report  
For  
Cwm Taf University Health Board**

**Authorising Engineer  
(Ventilation) Annual  
Report  
For  
Cwm Taf University Health Board**

**NWSSP-SES Job No: Ventilation AE**

**Report Date: February 2019**

**Author: K.G. Ridge B.Sc (Hons) C.Eng FCIBSE**

**Signed: .....**

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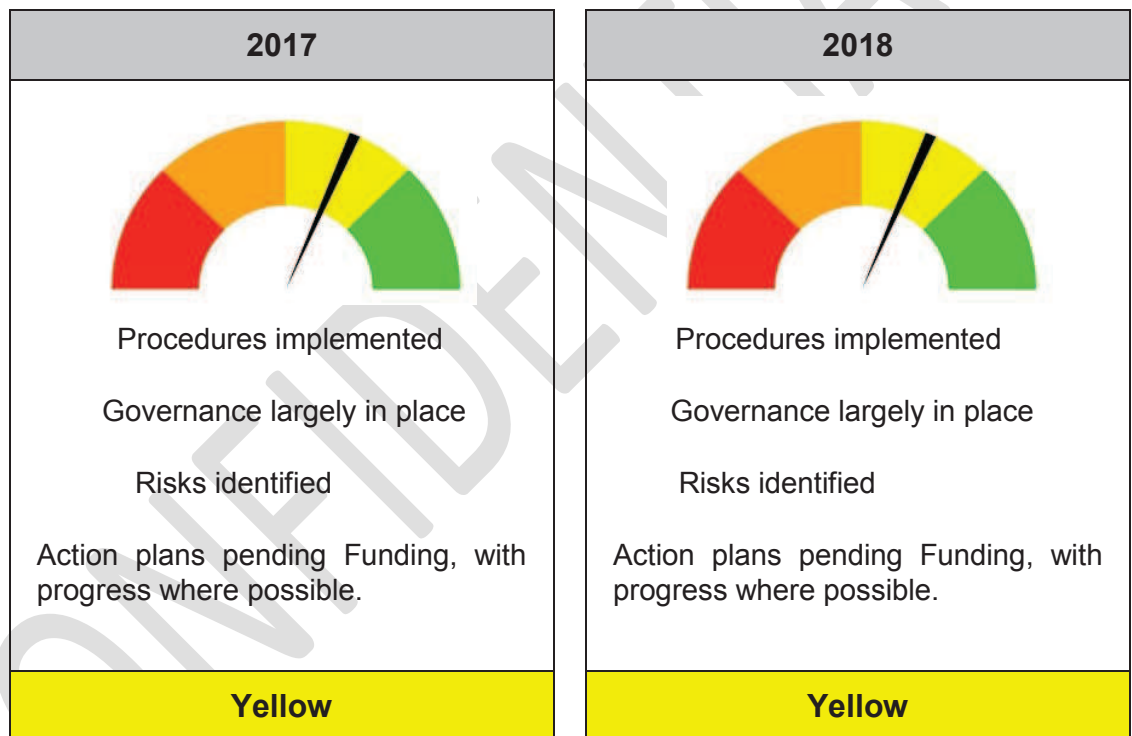
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## 1.0 EXECUTIVE SUMMARY

In general, terms the Authorising Engineer (ventilation) is content with the level of engagement with Cwm Taf University Health Board and the cooperation received from the health board during the review period.

The failure to appoint any APs (V) for Prince Charles Hospital has limited the compliance audits to The Royal Glamorgan Hospital.

The Authorising Engineer (V) has deemed the overall compliance rating of yellow (reasonable assurance) as shown below in figure 1. This compares with yellow (reasonable assurance) in the previous year.



**Figure 1 Compliance Rating – Reasonable Assurance**

## 2.0 BACKGROUND

The following report is an annual review undertaken by the Authorising Engineer for Ventilation appointed by Cwm Taf University Health Board.

This report is in accordance with the guidance set out in Welsh Health Technical Memorandum 00 - which stipulates the requirement for the Authorising Engineer to produce an annual audit (WHTM 00 Best practice guidance for healthcare engineering paragraph 3.15).

Healthcare organisations have a duty of care to patients, their workforce and the public. This is to ensure a safe and appropriate environment for healthcare. This requirement is identified in a wide range of legislation. At the most senior level within an organisation, this responsibility does not need to include technical, professional or operational duties, but the appointed person should have access to a robust structure that delivers governance, assurance and compliance through a formal reporting mechanism.

The Authorising Engineer (Ventilation) appointed by Cwm Taf University Health Board is Mr K.G Ridge.

### 3.0 AUDITS OF SYSTEMS AND INSTALLATIONS CARRIED OUT

#### 3.1 Operational management arrangements

Audits of the operational management arrangements for the ventilation systems were carried out during the review period at the Royal Glamorgan Hospital. Table 2 details the dates of the next audits.

Hospital	Date of audit	Date of next audit	Name of Person audited
Prince Charles Hospital	24 <sup>th</sup> April 2015	April 2018	None appointed
Royal Glamorgan Hospital	3rd May 2018	May 2021	Stewart Bayliss Michael Green

**Table 2 – Details of annual audits**

There were several non-conformities highlighted during the audits these as listed below:

##### 3.1.1 Major non conformities

There are no major non conformities.

##### 3.1.2 Minor non conformities

No procedure for the validation of competent persons currently exists.

### 3.1.3 Observations

The schedule of competent contractors allowed to work on the hospital air handling units at the Royal Glamorgan Hospital does not name individuals and therefore there is no way of verifying that the person employed by the contractors are competent or familiar with the site.

It is deemed that the estates staff should ideally limit the number of AP duties they undertake to no more than two in related engineering systems. This is to enable them to spend sufficient time to perform the duties correctly in accordance with HTM guidance.

### 3.2 Specialist ventilation systems annual verification

- 11 annual verification of specialist ventilation systems have been carried out at Prince Charles Hospital.
- 18 annual verification of specialist ventilation systems have been carried out at Royal Glamorgan Hospital.

### 3.4 Pre clinical validation

NWSSP-SES has provided the following pre-clinical validation services during the reporting period.

- PCH – Neonatal
- PCH – phase 1

## 4.0 INDEPENDENT PROFESSIONAL ADVICE

Independent advice was provided by the AE to the health board during the period covered by this report, provided verbally or via e-mail and covered guidance on interpretation of the HTM on a number of subject matters, including:

- the use of treatment rooms for intervention procedures
- isolation Room compliance

## 4.1 AUTHORISING ENGINEER DUTIES IN RESPECT OF Authorised PERSONS

The health board's authorised person (Ventilation) (A.P. (V)) has the key operational responsibility for this specialist service. Table 1 details the current A.P. (V)'s nominated by the A.E. (V) and appointed by the health board to authorise and supervise work on the ventilation systems within the health board. It is A.E. (V)'s considered opinion that the number of A.P. (V)'s employed is not sufficient to provide adequate cover at all times.

Hospital	Authorised Person (Ventilation)	Date Appointed	Appointment Expires
Royal Glamorgan Hospital	Stewart Bayliss	03/05/2018	03/05/2021.
Royal Glamorgan Hospital	Michael Green	03/05/2018	03/05/2021

**Table 1 – Details of Authorised Persons (Ventilation)**

#### **4.3 ADVICE ON DESIGN, PROCUREMENT AND COMMISSIONING**

The Authorising Engineer has been required to provide advice on Design, procurement and commissioning of the following schemes:

- Prince Charles Hospital – Enabling works phase 1b.

#### **5.0 INVESTIGATIONS OF ADVERSE INCIDENTS AND DISSEMINATION OF RELATED ADVICE**

The A.E. (V) has not been requested to undertake any investigations of adverse incidents.

#### **6.0 RECOMMENDATIONS**

Whilst the designated person should note the full content of this report, it is recommended that particular attention be given to addressing the following Minor non conformities /observation:

- The schedule of competent contractors allowed to work on the hospital air handling units at the Royal Glamorgan Hospital does not name individuals and therefore there is no way of verifying that the persons employed by the contractors are competent or familiar with the site.
- No procedure for the validation of competent persons currently exists.

#### **6.1** If the Designated Person or their representatives would like to discuss this report further please contact the AE (V) using the details below:

Mr Kevin Ridge  
Head of Engineering  
3<sup>rd</sup> Floor, Companies House  
Crown Way  
Cardiff  
CF14 3UB  
Email: kevin.ridge@wales.nhs.uk  
☎: 02920 904099 or 07786 800581



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**Authorising Engineer (Water)  
Annual Report  
For  
Cwm Taf  
University Health Board**

**Authorising Engineer (Water)  
Annual Report  
For  
Cwm Taf  
University Health Board**

**NWSSP-SES Job No: CT/AG/001**

**Report Date: December 2017**

**Authorising Engineer: Mark Gapper BEng(Hons) CEng MCIBSE  
Principal Mechanical Engineer**

**Signed:**  .....

**Authorised by: Kevin Ridge BSc(Hons) CEng FCIBSE  
Head of Engineering**

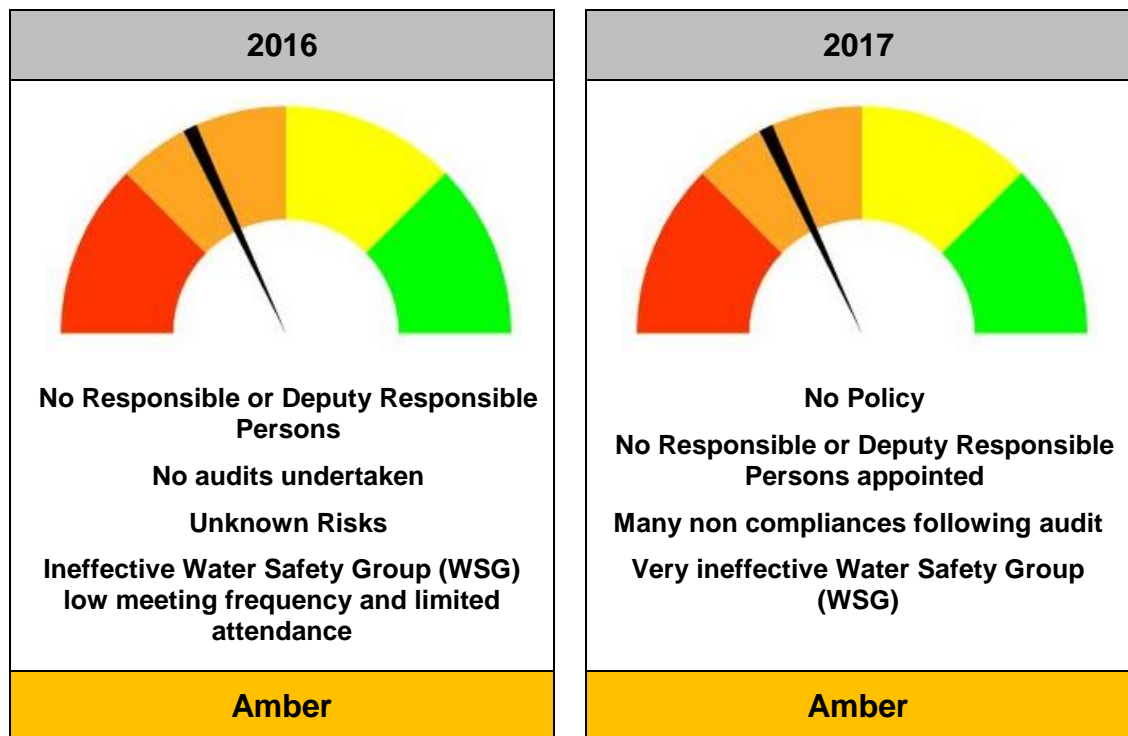
**Signed:**  .....

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## 1.0 EXECUTIVE SUMMARY

- 1.1 Water safety compliance within Cwm Taf University Health Board (CTUHB) requires considerable improvement as currently there are many areas of non compliance including no policy.
- 1.2 Progress has been made in identifying the Responsible Person (RP) and 2No. Deputy Responsible Persons (DRPs) with the appointment process underway.
- 1.3 Water Safety Operational and Management Arrangement Audits have recently been undertaken by the Authorising Engineer (AE-W). The reported findings detail the lack of water safety compliance.
- 1.4 The Water Safety Group (WSG) is not effective as meeting frequency and attendance is very poor.
- 1.5 The AE(W) has deemed an overall compliance rating of amber (limited assurance) as shown below in figure 1. This compares with the same rating as the previous year.



**Figure 1 Compliance Rating**

## 2.0 BACKGROUND

- 2.1 The following report is a compliance review undertaken by the Authorising Engineer for Water (AE (W)), appointed by the Cwm Taf University Health Board (CTUHB).
- 2.2 This report is in accordance with the guidance set out in Welsh Health Technical Memorandum 00 - which stipulates the requirement for the AE to produce an annual audit (WHTM 00 Best practice guidance for healthcare engineering paragraph 3.15).

- 2.3 Healthcare organisations have a duty of care to patients, their workforce and the general public. This is to ensure that a safe and appropriate environment for healthcare is provided, which is a requirement identified in a wide range of legislation.
- 2.4 The AE(W) appointed by CTUHB is Mr Mark Gapper of NWSSP-SES, and his role as AE(W) includes the following duties:
- Acting as an independent professional adviser to the healthcare organisation on water safety issues.
  - Act as an assessor and make recommendations for the appointment of Responsible Persons (RPs) and Deputy Responsible Persons (DRPs).
  - Undertake an audit of water safety operational and management arrangements bi-annually to ensure compliance with HSE ACoP L8 (2013), its associated technical guidance HSG274 (2013 & 2014) and WHTM 04-01. A written report of the audit should be completed identifying levels of compliance. Recommendations should be provided for elements achieving sub standard compliance.
  - Provide an annual report of the service to the healthcare Designated Person (DP).

### 3.0 OPERATIONAL MANAGEMENT ARRANGEMENTS, AUDITS AND THE WATER SAFETY GROUP (WSG)

#### Operational Management Arrangements

- 3.1 The Health Board's RPs and DRPs for water safety have the key operational responsibility for this specialist service. Table 1 details the current RPs and DRPs nominated by the DP, recommended following assessment by AE(W) and appointed by the DP.

**Table 1: Responsible and Deputy Responsible Persons (Water)**

Operational Area	Responsible and Deputy Responsible Person (Water) RP(W) & DRP(W)	Expiry
Prince Charles hospital & district	No appointments have been made for RP(W) or DRP(W)	
Royal Glamorgan hospital & district	No appointments have been made for RP(W) or DRP(W)	

- 3.2 As Table 1 indicates no appointments have been made to date. However the RP is awaiting assessment by the AE(W). The DRPs have been identified but the AE(W) is awaiting official nomination following completion of suitable RP training.
- 3.3 It is deemed that staff should ideally limit the number of RP/DRP/AP duties they undertake to no more than two in related engineering

systems. This is to enable them to spend sufficient time to perform the duties correctly in accordance with WHTM/HTM guidance.

### **Water Safety Operational and Management Arrangements Audits**

- 3.4 Table 2 provides details of the operational areas within the Health Board where water safety operational and management arrangement audits have been completed.

**Table 2 – Details of Water Safety Operational and Management Audits**

<b>Hospital</b>	<b>Date of audit</b>	<b>Name of health board auditees</b>
Prince Charles Hospital & Community	November 2017	Chris Scully Lewis Jones
Royal Glamorgan Hospital & Community	November 2017	Jason Williams Stuart Baylis

- 3.5 The audits highlighted that water safety compliance within CTUHB is not satisfactory. A significant number of non compliant areas within the report have resulted in recommendations being provided from which action plans should be produced.

### **Water Safety Group (WSG)**

- 3.6 The WSG is not effective as it meets rarely and has poor attendance. The AE(W) is very concerned as this group should ensure assurance for the DP in this area of compliance.
- 3.7 The WHTM 04-01 – Safe water in Healthcare Premises places significant responsibility on this multidiscipline group and all areas of water safety should be planned, actioned or overseen by the group.
- 3.8 The AE(W) is invited to all meetings and has a high level of attendance.

## **4.0 INDEPENDENT PROFESSIONAL ADVICE**

- 4.1 Independent professional advice was provided during the reporting period on a number of subject matters, including:
- Prince Charles Hospital redevelopment pipework jointing methods;
  - Prince Charles Hospital Neonatal tap specification options
  - recommendations to risk assess the installation of thermostatic mixing valves (TMVs);
  - training considerations;
  - Preventative planned maintenance requirements;
  - Water safety risk assessment contract review guidance.
  - Hot and cold water deadleg limitations;
  - Macmillan Y Bwthyn design review.

## 5.0 INVESTIGATIONS OF ADVERSE INCIDENTS

5.1 No adverse incidents on the water systems were reported to the AE(W) by the Health Board during this period.

## 6.0 RECOMMENDATIONS

6.1 Whilst the DP should note the full content of this report, it is recommended particular attention is given to addressing the following:

- Ensure concise water safety policy is prepared and ratified;
- Nominate the identified DRPs for assessment and subsequent appointment following the completion of suitable RP training.
- Ensure action plans from the water safety operational and management arrangement audits are drafted and progressed;
- Ensure that the WSG meets at more frequent intervals and priority given for regular attendance by all members or their representatives. This will ensure issues can be effectively addressed and water safety compliance improved in all areas.

6.2 If the Designated Person or their representatives would like to discuss this report further please contact the AE(W) using the details below:

Mr Mark Gapper  
Principal Mechanical Engineer  
3<sup>rd</sup> Floor Companies House  
Crown Way  
Cardiff.  
CF14 3UB

Email: [mark.gapper@wales.nhs.uk](mailto:mark.gapper@wales.nhs.uk)

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**Authorising Engineer  
(High Voltage) Annual Report  
For  
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**Authorising Engineer  
(High Voltage) Annual Report  
For  
Cwm Taf  
University Health Board**

**NWSSP-SES Job No: CT/AG/01**

**Report Date: January 2019**

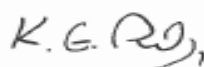
**Authorising Engineer: Simon B Russell BEng (Hons) CEng, MIET  
Principal Electrical Engineer**

**Signed:** .....



**Authorised by: Kevin Ridge BSc (Hons) CEng, FCIBSE  
Head of Engineering**

**Signed:** .....

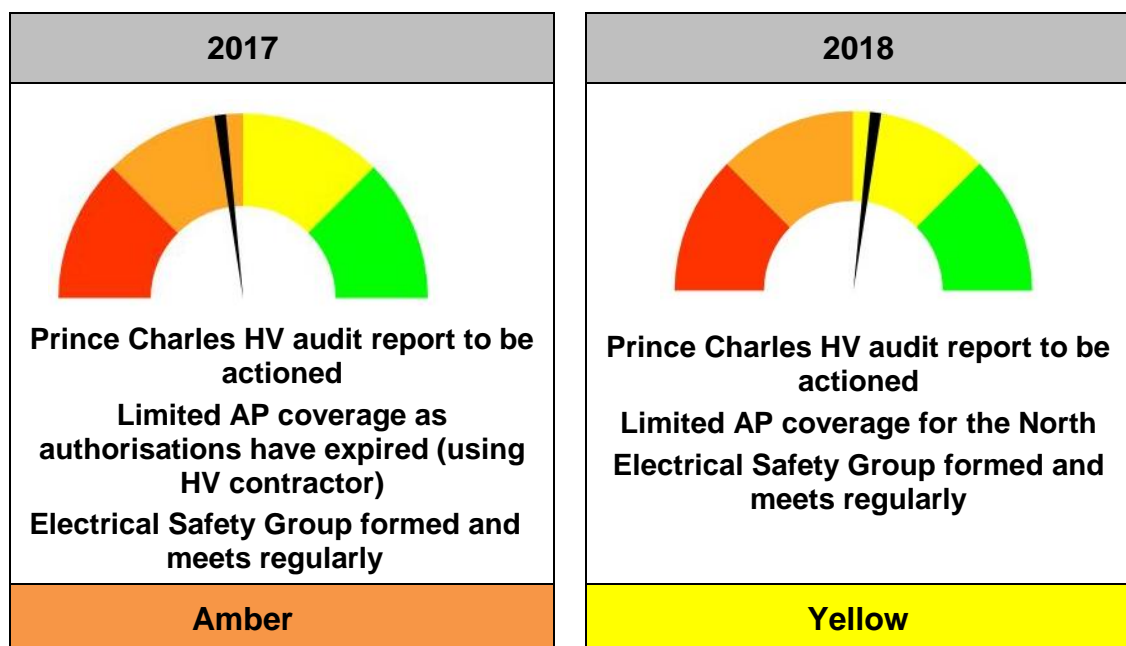


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## 1.0 EXECUTIVE SUMMARY

- 1.1 Generally, the condition and management of the high voltage (HV) systems appears satisfactory, with non-conformities with regard to the site condition listed in previous individual site triennial reports.
- 1.2 No HV triennial site audits have been completed during the period.
- 1.3 Limited Authorised Person (High Voltage) (AP (HV)) coverage is provided currently with only Jason Williams officially appointed for all sites. Stuart Bayliss has recently been reappointed for Royal Glamorgan and East Glamorgan Hospitals, which will reinforce the provision for these hospitals. An additional AP (HV) should be appointed to ensure adequate coverage at all times to Prince Charles Hospital and Ysbyty Cwm Cynon site.
- 1.4 Royal Glamorgan Hospital electrical infrastructure has inherent risks in its original design and configuration, which the health board should continue to manage until the business case and upgrade works progress.
- 1.5 East Glamorgan Hospital HV switchgear is nearing the end of its life and has a common HV and low voltage (LV) switchroom. Consideration/planning should be given for the replacement of this equipment in the near future.
- 1.6 Following the update of Health Technical Memorandum (HTM) 06-01 in 2017, an Electrical Safety Group (ESG) has been formed, and meets on a regular basis.
- 1.7 Overall, the Authorising Engineer (AE (HV)) has deemed the overall compliance rating of yellow (reasonable assurance) as shown below in figure 1. This compares with amber (limited assurance) in the previous year.



**Figure 1 Overall Compliance Rating**

## 2.0 BACKGROUND

- 2.1 The following report is a compliance review undertaken by the Authorising Engineer for High Voltage (AE (HV)) appointed by the Cwm Taf University Health Board (CTUHB).
- 2.2 This report is in accordance with the guidance set out in Welsh Health Technical Memorandum 00 - which stipulates the requirement for the Authorising Engineer to produce an annual audit (WHTM 00 Best practice guidance for healthcare engineering paragraph 3.15).
- 2.3 Healthcare organisations have a duty of care to patients, their workforce and the general public. This is to ensure that a safe and appropriate environment for healthcare is provided, which is a requirement identified in a wide range of legislation.
- 2.4 The role of the AE (HV) is detailed within HTM 06-03 and details the principal duties undertaken by the AE (HV) in relation to the Healthcare organisation's statutory duties with regard to their high voltage installations.
- 2.5 The AE (HV) appointed by Cwm Taf University Health Board is Mr Simon Russell of NWSSP-SES, and his role as AE (HV) includes the following:
  - Acting as an independent professional adviser to the Healthcare organisation on high voltage issues.
  - Act as an assessor and make recommendations for the appointment of Authorised Persons (High Voltage) (AP (HV)) or HV officers (operational engineer who manages the day to day operation of the HV system).
  - Monitor the performance of the service and provide an annual audit of the high voltage systems to the Healthcare Designated Persons.
  - At intervals not exceeding three years, the AE (HV) is to undertake comprehensive audits of the safe systems to work and safety procedures recommended by HTM06-03. A written report of the audit should be compiled, listing satisfactory items seen and any deficiencies found and recommendations made.

## 3.0 AUDITS OF SYSTEMS, INSTALLATIONS AND THE ELECTRICAL SAFETY GROUP (ESG)

### **Operational management arrangements**

- 3.1 The health board's Authorised Person (High Voltage) AP (HV)) has the key operational responsibility for this specialist service. Table 1 details the current APs (HV) nominated by the AE (HV) and appointed by the health board.

Hospital	Authorised Person (High Voltage)	Date Appointed	Appointment Expires
Royal Glamorgan Hospital	Stuart Bayliss	30 <sup>th</sup> January 2019	28 <sup>th</sup> September 2021
	Jason Williams	15 <sup>th</sup> February 2018	17 <sup>th</sup> February 2020
East Glamorgan Laundry	Stuart Bayliss	30 <sup>th</sup> January 2019	28 <sup>th</sup> September 2021
	Jason Williams	15 <sup>th</sup> February 2018	17 <sup>th</sup> February 2020
Prince Charles Hospital	Jason Williams	15 <sup>th</sup> February 2018	17 <sup>th</sup> February 2020
Ysbyty Cwm Cynon	Jason Williams	15 <sup>th</sup> February 2018	17 <sup>th</sup> February 2020

**Table 1 – Details of Authorised Persons (High Voltage)**

- 3.2 Jason Williams provides AP (HV) duties for all sites. He was newly appointed in 2018 and will be due for reassessment in 2020.
- 3.3 Stuart Bayliss currently provides AP (HV) duties at Royal Glamorgan and East Glamorgan Hospitals. Stuart's attended a refresher training course last year and was reauthorised recently.
- 3.4 Neil Normanton originally provided AP (HV) duties for Ysbyty Cwm Cynon and Prince Charles Hospital. Neil's authorisation expired in 2017.
- 3.5 The maintenance schedule and associated paperwork confirms the works being carried out by the maintenance contractor during the period.
- 3.6 Management and operation policy documents for the HV system have been issued and ratified by the board.

#### **Installation Audits**

- 3.7 Table 2 provides details of hospitals within the health board that compliance audits have been carried out in previous years. The three main sites will be due audits in 2019.

Hospital	Date of compliance audit	Name of auditee
Prince Charles Hospital	19 <sup>th</sup> October, 2016	Neil Normanton
East Glamorgan Laundry	17 <sup>th</sup> August, 2017	Stuart Bayliss
Royal Glamorgan Hospital	22 <sup>nd</sup> November, 2016	Stuart Bayliss
Ysbyty Cwm Cynon	7 <sup>th</sup> November, 2016	Jason Williams

**Table 2 – Details of triennial audits**

- 3.8 Generally, the condition and management of the HV systems appear satisfactory, with non-conformities with regard to particular site issues listed in the individual site triennial reports.

### **Electrical Safety Group (ESG)**

- 3.9 Health Technical Memorandum (HTM) 06-01 Electrical services supply and distribution was updated in 2017 and introduced the concept of the Electrical Safety Group (ESG) in healthcare organisations (similar to the Water Safety Group in Health Technical Memorandum 04-01 on water safety). This is a multidisciplinary group responsible for ensuring that all electrical safety issues are monitored, recorded and acted on in line with the relevant legislation and guidance.
- 3.10 Most organisations should already have an electrical health and safety committee or similar group in place to manage electrical safety. The Electrical Safety Group should take over this role, but with a more holistic remit. The HTM recommends that the Group report to the responsible person at board level and be led and chaired by a person who has appropriate management responsibility, knowledge, competence and experience. This is in keeping with the recommendations in Health Technical Memorandum 00 – ‘Policies and principles of healthcare engineering.
- 3.11 The health board has formally instigated this group, and meets on a regular basis in conjunction with the AE (HV) and AE (LV).

## **4.0 INDEPENDENT PROFESSIONAL ADVICE**

- 4.1 Independent professional advice was provided during the reporting period on a number of subject matters, including:
- Commentary/advice on Royal Glamorgan Hospital infrastructure modernisation.
  - Commentary/advice on Prince Charles ground and first floor refurbishment including electrical infrastructure.
  - Schneider Electric issued a HV product quality notification on 24<sup>th</sup> May 2018 with regard to its RN2C ring main units, possible overpressure and associated leak of the SF6 gas. Prince Charles Hospital has two units affected by this alert, and should have the remedial work carried out.
  - A SOP was put in place in 2012 with regard to the RN2C ring main unit and potential bolt failure. Prince Charles Hospital has one unit affected by this SOP and should have the remedial work carried out.

## **5.0 INVESTIGATIONS OF ADVERSE INCIDENTS**

- 5.1 No adverse incidents on the HV systems were reported to the AE (HV) by the health board during this period.

5.2 The AE (HV) circulated the following ENA (Energy Networks Association) notices in the last twelve months relating to HV incidents, which are relevant to the HV equipment within the health board. These are included below:

- *WG HVHA 2018 050 - DIN 2018 0035 00 - Battery - Cells - Unknown*
- *WG HVHA 2018 049 - DIN 2018 0034 00 - Battery - Cells - Unknown*
- *WG HVHA 2018 039 - DIN 2017 0018 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 038 - DIN 2018 0017 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 037 - DIN 2017 0034 01 (Update) - Circuit Breaker - HG12 - Hawker Siddeley*
- *WG HVHA 2018 036 - NEDER 2018 0880 00 - Low Voltage Circuit Breaker - SACE E1.2B - ABB*
- *WG HVHA 2018 035 - DIN 2018 0016 00 - RMU -RN2- Schneider Electric*
- *WG HVHA 2018 033 - DIN 2018 0014 00 - RMU -RN2- Schneider Electric*
- *WG HVHA 2018 032 - DIN 2018 0013 00 - Transformer - 11kV to 433V 1000kVA - Schneider Electric*
- *WG HVHA 2018 030 - NEDER 2018 0876 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 028 - DIN 2018 0012 00 - Transformer - 11kV to 433V 800kVA - C G Power Systems*
- *WG HVHA 2018 025 - NEDER 2018 0873 00 - RMU - RN2c- Schneider Electric*
- *WG HVHA 2018 024 - NEDER 2018 0871 00 - Protection - 7SRxx Argus M - Siemens*
- *WG HVHA 2018 015 - DIN 2018 0006 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 011 - NEDER 2018 0868 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 009 - NEDER 2018 0865 00 - Protection - TR231 - Siemens*
- *WG HVHA 2018 007 - DIN 2018 0003 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018 005 - NEDER 2018 0864 00 - RMU - RN2c - Schneider Electric*
- *WG HVHA 2018/002 - NEDER 2017 0861 00 (Amendment) - LV Circuit Breaker - SACE EMAX E2N 12 - ABB*

## 6.0 RECOMMENDATIONS

6.1 Whilst the designated person should note the full content of this report, it is recommended particular attention is given to addressing the following:

- The ETA Projects and NWSSP-SES electrical infrastructure reports highlight the single point failures inherent in the existing installation at Royal Glamorgan Hospital. The health board should continue to manage this risk and ensure appropriate measures are in place until the infrastructure project is complete.
- East Glamorgan Hospital switchgear is nearing the end of their intended operational life. As the site is now limited to the laundry building, it may be prudent to renegotiate a low voltage supply direct from the district network operator (DNO) (this would also relieve the maintenance/operational issue with aging HV switchgear).
- The number of APs (HV) should be reviewed and additional in-house APs (HV) should be trained and appointed to provide adequate coverage for the four sites. This would also assist in the day to day housekeeping required for routine substation inspections and maintenance.

6.2 If the designated person or their representatives would like to discuss this report further please contact the AE (HV) using the details below:

Mr Simon Russell  
Principal Electrical Engineer  
3<sup>rd</sup> Floor, Companies House  
Crown Way  
Cardiff CF14 3UB  
Email: [simon.russell@wales.nhs.uk](mailto:simon.russell@wales.nhs.uk)  
☎: 02920 904100 or 07881 817979



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**Authorising Engineer  
(Medical Gas Pipe Line Systems) Annual Report  
For  
Cwm Taf University Health Board**

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**NWSSP-SES Job No: WG/AE/002**

**Report Date: January 2019**

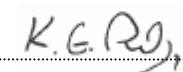
**Authorising Engineer: Christopher East BEng(Hons)**

**Designation: Senior Performance Standards Engineer**

**Signed:**  .....

**Authorised by: Kevin Ridge BSc(Hons), C.Eng, FCIBSE**

**Designation: Head of Engineering**

**Signed:**  .....

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## 1.0 EXECUTIVE SUMMARY

- 1.1 Generally the overarching management of the Medical Gas Pipe Line Systems (MGPS) appears reasonable, with a common non-conformity with regard to the lack of appointed AP's, which is of great concern and no in house QC pharmacist (MGPS). High level non-conformities are also listed in section 6 and further non-conformities can be found in the individual site annual reports issued under separate cover.
- 1.2 MGPS yearly site audits have been completed for Prince Charles, Royal Glamorgan and Ysbyty Cwm Rhondda since the last Report.
- 1.3 Overall the Authorising Engineer (AE (MGPS)) has deemed the 2018 compliance rating to be Amber/Yellow (Limited/Reasonable assurance), which compares with Amber/Yellow (Limited/Reasonable assurance) in the previous year, as shown below in figure 1.
- 1.4 Compliance audits are carried out in a five year cycle unless a shorter interval is requested by the Health Board.

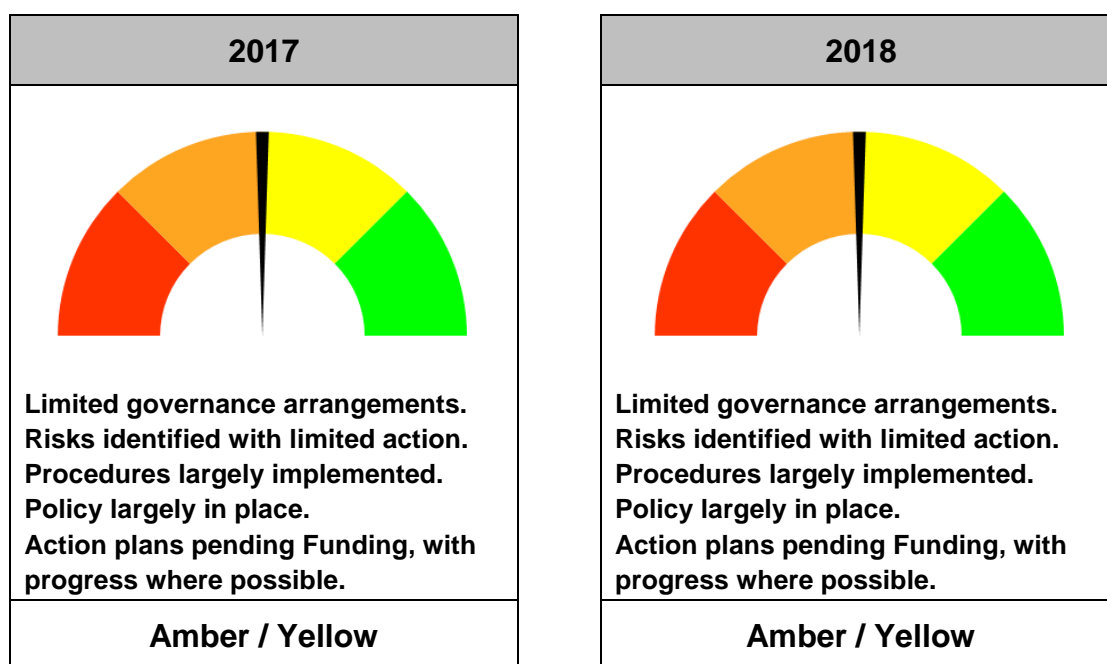


Figure 1 Overall Compliance Rating

## 2.0 BACKGROUND

- 2.1 The following report is a compliance review undertaken by the Authorising Engineer for Medical Gas Pipe Line Systems (AE (MGPS)) appointed by the Cwm Taf University Health Board (CTHB).
- 2.2 This report is in accordance with the guidance set out in Welsh Health Technical Memorandum 00 - which stipulates the requirement for the Authorising Engineer to produce an annual audit (WHTM 00 Best practice guidance for healthcare engineering paragraph 3.15).
- 2.3 Healthcare organisations have a duty of care to patients, their workforce and the general public. This is to ensure that a safe and appropriate environment for healthcare is provided, which is a requirement identified in a wide range of legislation.
- 2.4 The role of the AE (MGPS) is detailed within HTM 02-01, which details the principle duties undertaken by the AE (MGPS) in relation to the Healthcare organisation's statutory duties, and with regard for their Medical Gas Pipe Line Systems.
- 2.5 The AE (MGPS) appointed by Cwm Taf University Health Board (CTHB) is Mr Christopher East of NWSSP-SES, and his role as AE (MGPS) includes the following:
- Acting as an independent professional adviser to the healthcare organisation on medical gas issues.
  - Act as an assessor and make recommendations for the appointment of Authorised Persons (AP).
  - Monitor the performance of the management arrangements, during yearly site audits, and provide an overall annual report of the medical gas system to the Health Board Designated Person.
  - At intervals of five years, the AE (MGPS) is to undertake comprehensive compliance surveys of the MGPS on all sites as recommended by HTM 02-01. A written report of the survey should be compiled, listing satisfactory items seen and any deficiencies found and recommendations made.

## 3.0 AUDITS OF SYSTEMS AND INSTALLATIONS

### Operational management arrangements

- 3.1 The Health Board's Authorised Person's (Medical Gas Pipe Line Systems) AP (MGPS)) have the key operational responsibilities for this specialist service. Table 1 details the current APs (MGPS) assessed by the AE (MGPS), and whether they have been appointed by the Health Board.
- 3.2 It is deemed that the estates staff should ideally limit the number of AP duties they undertake to no more than two in related engineering systems. This is to enable them to spend sufficient time to perform the duties correctly in accordance with HTM guidance.

Authorised Person (MGPS)	Date of assessment	Re-assessment due	Appointed by the Health Board Y/N
Prince Charles			
None	N/A	N/A	N/A
Royal Glamorgan			
Jason Williams*	November 2018	November 2021	Y
Ysbyty Cwm Rhondda			
Mike Green	June 2017	June 2020	Y
Jason Williams*	November 2018	November 2021	Y
* Indicates CAP for this site			

**Table 1 – Details of Authorised Persons (MGPS)**

- 3.3 It can be seen in Table one above that the HB does not currently have any appointed AP's for Prince Charles. It should also be noted that Chris Scully will be assessed as a MGPS AP for Prince Charles on February 8<sup>th</sup> 2019.

It can also be seen in table one that there is a distinct lack of MGPS AP's appointed for the individual sites, which should be remedied as a matter of urgency.

- 3.4 It is deemed that estates staff should ideally limit the number of AP duties they undertake to no more than two in related engineering systems. This is to enable them to spend sufficient time to perform the duties correctly in accordance with HTM guidance.
- 3.5 The AP's (MGPS) have previously undertaken Authorised AP (MGPS) refresher courses and CPR training.
- 3.6 The maintenance schedules and associated paperwork for the works being carried out by the maintenance contractor during the period need to be formalised and recorded.

- 3.7 The management and operational policy document for the MGPS is in the process of being reviewed in accordance with HTM 02-01.
- 3.8 The HB does not currently have an in house QC pharmacist (MGPS).
- 3.9 Table 2 below provides details of hospitals within the Health Board in which management arrangement audits have been carried out since the last AE report.

Hospital	Date of management arrangement audits	Name of auditee
Prince Charles	August 2018	Chris Scully
Royal Glamorgan	October 2018	Jason Williams
Ysbyty Cwm Rhondda	August 2018	Mike Green

**Table 2 – Details of annual audits**

- 3.10 Generally the AP's management of the Medical Gas Pipe Line Systems (MGPS) appears reasonable; however Prince Charles does not have any appointed AP management. The overarching management arrangements are reasonable.
- 3.11 There are a number of non-conformities regarding the operational management of the MGPS which are detailed in the site reports. In summary, the following non-conformities were common to all sites;
- The lack of AP's to cover all sites is a concern.
  - The HB does not currently have an appointed QC Pharmacist (MGPS) however contingency arrangements have been put in place for planned work.
  - The Health Board does not currently have a ratified MGPS Operational Policy that reflects the MGPS & Personnel.
  - Staff training on medical gasses is poor, even though the medical gas trainer provides in house training courses.

### **Audit of systems**

- 3.12 Table 3 provides details of hospitals within the Health Board that have had compliance audits carried out. It is the intention of the AE (MGPS) that compliance surveys will be undertaken every five years unless a shorter interval is requested by the Health Board.

HTM 02-01 states that guidance does not have to be applied retrospectively unless patient or staff safety would be compromised and the existing

installations should be assessed for compliance against the HTM and a plan for upgrading the existing systems should be prepared.

Hospital	Date of next compliance audit
Prince Charles	2019
Royal Glamorgan	2019
Ysbyty Cwm Rhondda	2019
Ysbyty George Thomas	2019

**Table 3 – HTM 02-01 Compliance audits**

## 4.0 INDEPENDENT PROFESSIONAL ADVICE

4.1 Independent advice has been provided by the AE (MGPS) to the Health Board's AP's (MGPS) during the period covered by this report. The advice was provided verbally or via e-mail and covered guidance on interpretation of the HTM or involving new medical gas installations on a number of subject matters, including:

- MGPS Committee.
- MGPS policy.
- AP permit writing (Capital).
- Compliance surveys.

## 5.0 INVESTIGATIONS OF ADVERSE INCIDENTS

5.1 No adverse incidents on the MGPS systems were reported to the AE (MGPS) by the Health Board during this period.

5.2 WG EFA 2018 001 - GCE Regulators type MPRS2 risk of catastrophic failure, alert relating to medical gas systems was issued to the Health Board during the reporting period.

## 6.0 RECOMMENDATIONS

6.1 Whilst the Designated Person should note the full content of this report, it is recommended particular attention is given to addressing the following:

- To cover all sites the HB needs to train and nominate additional AP's to the AE for assessment; if the assessment is successful the AE (MGPS) will recommend that the AP's (MGPS) be appointed in writing by the DP.
- Limit the number of AP roles in the same discipline to a maximum of two per person.
- Produce an action plan to address the non-compliance issues highlighted in the compliance reports produced by NWSSP-SES.
- Develop the MGPS committee further and ensure relevant personnel are in attendance.
- Review and implement an up-to-date MGPS Operational Policy.
- Ensure that written schemes of examination are in place for those relevant to the MGPS under the terms of the Pressure Systems Safety Regulations 2000.
- Ensure all staff using medical gasses receive appropriate training.

6.2 If the Designated Person or their representatives would like to discuss this report further please contact the AE (MGPS) using the details below:

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Senior Performance Standards Engineer  
3<sup>rd</sup> Floor, Companies House  
Crown Way  
Cardiff  
CF14 3UB

Email: [chris.east@wales.nhs.uk](mailto:chris.east@wales.nhs.uk)

☎: 02920 904102 or 07787002550