REGULATION 28: REPORT TO PREVENT FUTURE DEATHS

	REGULATION 28 REPORT TO PREVENT FUTURE DEATHS **THIS REPORT IS BEING SENT TO:** 1. Miles Scott Chief Executive St Georges University Hospitals NHS Foundation Trust Blackshaw Rd London SW17 0QT 2. [redacted] Managing Director Healthcare UK&I Phillips Healthcare Philips Centre Guildford Business Park Guildford Surrey GU2 8XH 3. The Rt Hon Jeremy Hunt MP Secretary of State for Health Department of Health Richmond House 79 Whitehall London SW1A 2NS
	CORONER I am Angela Hodes, Assistant Coroner, for the coroner area of Inner West London
2	**CORONER'S LEGAL POWERS** I make this report under paragraph 7, Schedule 5, of the Coroners and Justice Act 2009 and regulations 28 and 29 of the Coroners (Investigations) Regulations 2013. [HYPERLINKS]
3	**INVESTIGATION and INQUEST** An investigation into the death of Jacqueline Emma Brown Scott age 55 was commenced on 10 April 2015. The investigation concluded at the end of the inquest on 2 February 2016. The conclusion of the inquest was that Mrs Scott died of natural causes on 31 March 2015 and the medical cause of death was recorded as Type II respiratory failure (treated with complications March 2015) Hypoventilation syndrome and Bronchopneumonia. Hypertensive heart disease also contributed to her death.
4	**CIRCUMSTANCES OF THE DEATH** On 31 March 2015 Mrs Scott was admitted to hospital extremely unwell with worsening shortness of breath and reduced mobility. She had a history of severe sleep apnoea and morbid obesity. She was put on Philips Respironics Trilogy 202 machine BIPAP (Bilevel Positive Airway Pressure) also known as non-invasive ventilation (NIV) machine in A&E and later in the day was transferred later to the Acute Dependency Unit (ADU) on Richmond Ward for NIV and ward based care.

	Although the BIPAP machine was attached to the mains power socket of bed 5 in the ADU, the BIPAP was in fact running on battery as it was not known that there was a failure of power to the bed 5 power sockets and consequently to the BIPAP machine. Eventually the battery ran out and the machine stopped leaving Mrs Scott in a very vulnerable position and she died shortly thereafter.
5	**CORONER'S CONCERNS** During the course of the inquest the evidence revealed matters giving rise to concern. In my opinion there is a risk that future deaths will occur unless action is taken. In the circumstances it is my statutory duty to report to you. The **MATTERS OF CONCERN** are as follows. – **(1) The Philips Respironics Trilogy 202 (BIPAP)** (i)The BIPAP Trilogy 202 machine had a subtle visual display symbol which denoted when the machine was running on battery power. That symbol is not visible if there are many alert alarms as the alarm messages fill up the screen as they come in pushing the earlier alerts (including low battery) off the screen. In Mrs Scott's case there had been 17 alert alarms in the space of 50 minutes. (ii)The BIPAP Trilogy 202 Machine has the same alarm sound for battery depletion as for circuit disconnect (where for example the face mask slipped) which was the more usual and expected reason for an alarm and these two factors separately and together did not have any feature of urgent warning to alert staff to battery depletion. **(2) Staff training** (iii) Staff who were experienced and trained on the BIPAP machine did not appear to be trained to be alert to the situation or to the significance of a battery symbol showing on the machine when the machine was plugged in to the mains or to any particular alarm which denoted battery depletion rather than mask slippage. **(3) The provision of power to the ward** (iv) Richmond ward ADU beds was designated as a category 4 area which in this case meant there was no isolated power supply (IPS) provided to the ward notwithstanding life-saving equipment was routinely used. (v) Hospital Technical Memoranda (HTM) 06-01 Part A provides advice and guidance and a benchmark standard for electrical installation, maintenance and safety etc in healthcare premises. It is a matter of concern that there is a conflict of advice between clause 4.22 and Clause 6.62. Clause 4.22 states: "*Clinical treatment and patient safety may be compromised (but not endangered) by any interruption of electrical supply* " whereas Clause 6.62 states: "*In clinical risk Category 4 and 5 areas the patient environment should have at least two IPS circuits at the bedhead*" (vi)There was no system or check that would alert ward staff to the failure of mains power in any particular area. **(4) Notification to estates management** (vii) The crash bell for bed bay 5 did not work when the emergency arose. However estates management had been notified some days earlier of the broken patient call in the same bay. This was of concern as both emergency bells were on the same circuit and not fixed until 2 April 2014 when by chance the failure of electricity was identified.
6	**ACTION SHOULD BE TAKEN**

	In my opinion action should be taken to prevent future deaths and I believe you AND/OR your organisations have the power to take such action.
7	**YOUR RESPONSE** You are under a duty to respond to this report within 56 days of the date of this report, namely by 14 April 2016. I, the coroner, may extend the period. Your response must contain details of action taken or proposed to be taken, setting out the timetable for action. Otherwise you must explain why no action is proposed.
8	**COPIES and PUBLICATION** I have sent a copy of my report to the Chief Coroner and to the following Interested persons: [redacted] (address supplied) Hempsons Hempsons House 40 Villiers Street London WC2N 6NJ (for St Georges University Hospital NHS Foundation Trust) I have also sent it to CQC, HSE, MHRA and NHS ENGLAND who may find it useful or of interest. I am also under a duty to send the Chief Coroner a copy of your response. The Chief Coroner may publish either or both in a complete or redacted or summary form. He may send a copy of this report to any person who he believes may find it useful or of interest. You may make representations to me, the coroner, at the time of your response, about the release or the publication of your response by the Chief Coroner.
9	**17th March 2016** Angela Hodes. **Angela Hodes** **Assistant Coroner** **Westminster Coroner's Court, 65, Horseferry Road, London SW1P 2ED**