

Safety Action Notice

Reference: SAN2608

Issued: 02 October 2026

Emergency Power Off systems (EPOs) and recovery of imaging equipment following activation in interventional imaging rooms

Summary

A Regulation 28 Coroner's report highlighted potential risks in interventional imaging rooms following an Emergency Power Off (EPO) activation. Although the EPOs could be reset locally, the imaging equipment required additional re-start actions that were not understood by staff. This led to a delay in restoring imaging capability during a critical procedure, contributing to a fatality.

Action

1. Carry out a risk assessment of all interventional imaging rooms to:
 - confirm the configuration and operation of EPO systems and associated visual indicators,
 - identify whether additional equipment re-start or reset steps are required after EPO circuit restoration.
2. Review the full recovery process following EPO activation, ensuring that:
 - all steps required to restore imaging capability are clearly defined,
 - these steps are understood by clinical teams and do not rely on external attendance which may cause a delay.
3. Ensure that all controls required to re-start the imaging equipment, for example system start buttons, are:
 - clearly identified and accessible to clinical staff,
 - incorporated into local procedures,
 - replaced in line with manufacturers recommendations.
4. Review and update training for clinical, medical engineering and relevant Estates staff to ensure understanding of:
 - the effect of EPO activation,
 - the complete process required to restore the imaging equipment to an operational state including any manufacturer-specific re-start steps,
 - all visual indicators are operational.

Action (continued)

5. Ensure that local procedures explicitly describe the sequence required to restore imaging capability, including:
 - EPO reset,
 - any required imaging equipment re-start actions.
6. Ensure all visual indicators, for example supply healthy lamps, are functional and that failures are reported and rectified promptly.
7. Apply these requirements to all new and upgraded facilities, ensuring systems are designed to enable rapid and intuitive restoration of clinical functionality by the operator.

Equipment details

The following guidance is provided for all imaging rooms and interventional imaging rooms.

As set out in HTM 06-01, emergency power off buttons should be provided within imaging examination rooms. They should also be provided in cardiac catheterisation laboratory facilities.

There are three main types of emergency button (see AXREM emergency power off button label recommendations):

- **Emergency Power-Off (EPO)**

This will remove all mains power from the system. An associated UPS may (or may not) remain energised depending on the configuration. This should be made clear to staff during training and additional notices may be required.

- **X-ray system emergency power-off**

This will remove power to the specific equipment. In this example, x-ray equipment. This is the same as the EPO but is customised to be more specific when there is more than one type of device in the same room.

- **Emergency Motion Stop**

Not to be used to turn off the power to the equipment. This is intended to stop movement on the imaging equipment in the event of an emergency, to prevent harm to patients.

Background Information

A coronary intervention procedure was interrupted following activation of an emergency power-off (EPO) circuit. The clinical team were able to reset the EPO locally, and there is no confirmed evidence that the EPO could not be reset or that remote intervention was required.

Following restoration of power, the imaging equipment remained non-operational. It was subsequently identified that an additional equipment re-start action was required.

Background Information (continued)

This requirement was not understood by the clinical team at the time. Imaging capability was not restored until an engineer attended and reinstated power, resulting in an approximate 10-minute delay. Although the procedure was completed after functionality was restored, the patient subsequently died. On the balance of probabilities, the coroner concluded that the patient would have survived but for the delay in restoring imaging capability.

There is some uncertainty as to whether the EPO operated as intended or whether a fault was present. However, the primary contributor to the delay was the requirement for additional equipment re-start actions, rather than an inability to reset the EPO. For further details please refer to the Regulation 28 Coroner's report: [Report to Prevent Future Deaths](#), HM Senior Coroner for the Coroner Area of Greater Lincolnshire, 21 July 2025.

Distribution of this alert

This alert has been distributed to Incidents and Alerts Safety Officers (IASOs) in all health boards and local authorities in Scotland. **If you wish to share the alert informally with colleagues**, please inform them that they may also receive it through the formal local distribution. The local distribution may include additional actions tailored to address local needs, agreed upon by the IASO in consultation with department heads and professional leads.

You can contact your local IASO to discuss this alert and who it should be distributed to. If you do not know who your IASO is, you can find their contact details here: [Find your Incidents and Alerts Safety Officer](#).

Suggested onward distribution (may not include all affected departments)

Directors of Estates, Heads of Estates, Electrical Authorised Persons, Health and Safety, Radiography, Medical engineering.

References and other resources

Guidance on EPOs is provided in:

- HTM 06-01 Electrical services supply and distribution
- HBN 06-01 Facilities for diagnostic and interventional imaging
- HBN 01-01 Cardiac Facilities
 - HTM 06-01 is currently under review and the updated document will include these changes.
 - HBN 06-01 is currently under review and the updated document will include these changes.
 - HBN 01-01 is not currently planned for an update.

Additional information on EPOs is provided in:

- <https://www.axrem.org.uk/resource/medical-device-installation-safety/>
- <https://www.axrem.org.uk/resource/axrem-emergency-button-signs-for-permanently-installed-medical-equipment/>

Information about IRIC

Incident Reporting & Investigation Centre (IRIC), Facilities Division, NHS Scotland Assure
Public Services Delivery Scotland, Tel: 0131 275 7575, email: nss.irc@nhs.scot

Accessibility: Please contact us using the above details if you are blind or have a sight impairment and would like to request this alert in a more suitable format.

IRIC remit: general information about adverse incidents, safety alerts and IRIC's role can be found in [DL\(2024\)32](#), *Safety of Health, Social Care, Estates and Facilities Equipment: NHS Board and Local Authority Responsibilities*, issued 16 December 2024.

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Appendix A Requirements for EPOs

EPOs should be clearly labelled, easily accessible by staff and mounted in a location which reduces the risk of accidental use. They should be installed in both the examination and control area, with advice sought from the Radiation Protection Advisor (RPA) or Magnetic Resonance Safety Expert (MRSE) (as appropriate) on button locations.

The type and configuration of an EPO should be decided following a risk assessment and consultation between the clinical teams who will use the equipment, the Authorised Person (AP) (electrical), the Authorising Engineer (AE) (electrical), the Medical engineering team and the Electrical Safety Group.

There should be a visible and audible indication in the procedure room that the EPO has been activated.

In addition to careful positioning, protection against accidental operation of the EPO can be achieved by using an EPO fitted with a shroud (often a semi-circular protrusion over the top).

An EPO should feature a single action shut off.

The EPO should be labelled and clearly distinguishable from other devices.

All staff that will work in the imaging room should have received training on the activation and re-setting of an EPO, the switch on procedure, understanding of indicator lamps and what the impact will be on the equipment involved and patients being treated.

Re-setting of power following an EPO operation should be subject to a site-specific risk assessment which all clinical staff and medical engineering staff should be made aware of.

If any additional reset/ re-start operation of the medical equipment is required after an EPO has been reset, careful consideration should be given to the location of this reset/re-start facility, so that it is easily accessible by the clinical team. The location and operation of the reset/re-start facility for the medical equipment should be subject to a site-specific risk assessment, which all clinical staff should be made aware of. This should include consideration of having a remote operation function in the control room if a reset/ re-start button is located in an equipment or plant room, so that it can be accessed by the clinical team.