



SAFETY ALERT

PART A

Subject: Disruptive Failure of Radio Filter (RF) Power Filter

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Who Should Read this: Top Level Budget Holders, Prime Contractors, Private Finance Initiatives, Public, Private Partnership and other traditionally procured contracts, Project Managers, Site Estate Authority Teams and Property Managers with responsibility for MOD projects and Property Management Works Services (including the legacy work of EWCs/WSMs), Coordinating Authorising Engineers, Authorising Engineers (Electrical), Authorised Persons (Electrical), Heads of Establishments and site/Regional Health and Safety Advisors.

This Safety Alert does not necessarily cover all aspects of the subject matter and readers should make themselves aware of other potential issues. Readers should also not rely on DIO Safety Alerts as their only means of becoming aware of safety issues, but they should consult widely across other media to maintain awareness.

When it takes effect: Immediately

When it is due to expire: When updated or rescinded.

Aim

1. To bring to the attention of appropriate persons a disruptive failure of a mains Radio Frequency (RF) filter Type L2424, manufactured by Belling Lee.

2. To Note: Health and Safety Warning Notices 02/06 and 06/11 cover an incident involving similar equipment.

Introduction

3. Compliance with the contents of this Alert will enable compliance with the Health & Safety at Work etc Act 1974 and its subordinate Regulations.
4. The appropriate MOD officer shall arrange for the Maintenance Management Organisation (MMO) contractor to carry out all actions in accordance with this Alert.
5. Any work required as a result of this Safety Alert must be carried out in accordance with JSP 375 Part 2 Volume 3 – High Risk Activities on the Defence Estate
6. On MOD Establishments occupied by United States Visiting Forces (USVF) responsibility is jointly held by USVF and DIO(USF). At base level this jointly managed organisation is to take appropriate action to implement the contents of this Alert. Where this Alert contains procedures which differ significantly from USVF practice, DIO (USF) code of practice will be issued.

Requirement

7. Mains RF filters are known to be installed in facilities on the defence estate. They may be fixed directly to the wall, located in cabinets, or behind safety screens in plant rooms, vaults, corridors, offices and other locations.
8. Responsible persons are to establish if mains RF filters are present on their sites. If found, the location, quantity, manufacturer, type, serial number, date of manufacture, and if known, date of installation, are to be established and recorded. Additionally, relevant persons, including the building custodian, at the establishment and the Infrastructure Managers and Senior Infrastructure Managers (IM /SIM) are to be informed.
9. Responsible persons are to arrange for Competent Persons to inspect and confirm that the mains RF filters are operating within the manufacturer's design parameters. Where the mains RF filters are found to be operating outside of their design parameters arrangements are to be made to replace the filter with an appropriate mains RF filter.
10. Where mains RF filters are identified a suitable and sufficient risk assessment is to be undertaken to determine if hazards are present either to personnel working or passing in the vicinity of the mains RF filters or to adjacent sensitive equipment. Appropriate mitigation, including the need for warning signs and notices, is to be put in place in the short term until a permanent solution is identified and implemented. Ideally, persons working in rooms where mains RF filters are installed should be relocated, if this is not reasonably practicable measures are to be taken to contain the dispersal of debris should a disruptive failure occur. The 4Cs risk register should be suitably annotated following risk assessment and identification and execution of any mitigation measures.
11. The MMO is to notify the DIO Service Delivery Performance Management Team, DIO SD-Perf Mgt Team (MULTIUSER) account, through their respective DIO Service Manager identifying the location, quantity, type, manufacturer, date of manufacture and if available, date of installation for all installed mains RF filters.
12. The available data will be reviewed on 24th August 2015.
13. Further information will follow with the issue of **Part B** to this Safety Alert once the extent and scope of the affected estate has been established.

Background

14. A disruptive failure of a mains RF filter type L2424 (250v 2 Line 60 Amp filter) manufactured by Belling Lee, and now supported by ETS-Kindgren, occurred within an MOD office location. The mains RF filter was housed in a GRP enclosure, for reasons unknown at present, and the overpressure damaged the GRP enclosure, including its door locking mechanism, and expelled debris into the room with one of the metal door locking interconnecting bars travelling approximately 20 feet across the office. Fortunately, the room was not occupied at the time of the failure.
15. ETS-Kindgren has recovered and inspected the mains RF filters and provided a 'Filter Field Failure Report'. The Report has identified two potential contributory factors to the failure: the age of the mains RF filters, and their use on a 3 phase 400v circuit. Early indications suggest that the failure was propagated by using two single phase filters in a 3 phase system but an age related failure cannot be discounted at this time.
16. Investigations are ongoing and further information will be provided in Part **B** of this Safety Alert in due course.



Figure 1: Damaged mains RF Filter in GRP Enclosure (note: cables have been disconnected).



Figure 2: Damage to GRP enclosure.



Figure 3: Debris ejected from GPR enclosure including interconnecting bar.



Figure 4: GRP enclosure door following the incident, note the interconnecting/latching bars were detached in the incident

End.