



MINISTRY OF DEFENCE

Defence  
Infrastructure  
Organisation

# SAFETY ALERT

Subject: Reyrolle 11 kV Switchgear: All Variants of RO Range including RMS and RMK

Number: SA 13/11

DIO Secretariat Sponsor: RA Cawthorne

Date of issue:  
21 November 2011

Contact if different from above Sponsor:

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Who Should Read this:

Who Should Read this: CEstOs, Top Level Budget Holders, Project Sponsors, MOD Project Managers and others within the IPT (for both Prime, PFI/PPP and traditionally procured contracts), Defence Estates Advisors and Property Managers/Site Estate Representatives 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, purchasers and installers of final electrical distribution equipment.

When it takes effect: Immediately

When it is due to expire: No Expiry except on update.

Health and Safety

## Document Aim:

To impose immediate operational restrictions on Reyrolle 11 kV all variants of RO range switchgear, including RMS and RMK, manufactured up to and including 1982.

## 1. Introduction

- a. COMPLIANCE WITH THE CONTENTS OF THIS ALERT WILL ENABLE COMPLIANCE WITH THE HEALTH & SAFETY AT WORK ETC ACT 1974 AND ITS SUBORDINATE REGULATIONS.
- b. The appropriate MOD officer shall arrange for the Maintenance Management Organisation (MMO) contractor to carry out all actions in accordance with this Alert.
- c. Any work required as a result of this Safety Alert must be carried out in accordance with JSP 375 Volume 3 – MOD's Safety Rules & Procedures.
- d. 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.

## 2. Background

- a. This Safety Alert has been raised in response to Dangerous Incident Notification (DIN) 2010/0017/02 (Update) dated 16 Nov 11 and Suspension of Operational Practice (SOP) 2011/0374/00 dated 15 Nov 11 issued by the Energy Networks Association.
- b. DIN 2010/0017/02 (Update) notified the following incident:
  - A Reyrolle ROKSS RMU failed with expulsion of oil and a fire. Investigation into the cause of the incident concluded that mild steel bolts were used incorrectly to connect the connector block to the fixed contact block and the busbar. The bolts were torqued up to the value for high tensile bolts causing them to shear while passing fault current.
  - Following further investigation it has proved impossible to replace the faulty bolts on the affected switchgear without causing further detrimental effects.

## 3. Requirement

- a. **URGENT:** Addressees of this Safety Alert are to bring its contents to the attention of their Authorising Engineers (Electrical) (AE(E)), or equivalent, in order to make them aware of the potential risks posed by all variants of Reyrolle 11 kV RO range switchgear, including RMS and RMK, manufactured up to and including 1982 which may be in service on their sites.
- b. **AE(E)s are to ensure that the restriction identified below is put in place with immediate effect.**
- c. **Switchgear Replacement.** All affected switchgear are to be replaced at the earliest possible opportunity. The earliest possible opportunity should be established commensurate with operational requirements and the risk to personnel and property; with the highest priority given to heavily used/urgent operational facilities and the lowest to unoccupied, rarely occupied or non-essential facilities.

<b>Product</b>	<b>Reyrolle 11 kV all variants of RO range switchgear, including RMS and RMK</b>
<b>Manufacturer / Supplier</b>	<b>Reyrolle</b>
<b>Problem</b>	<b>Failure of bolts which connect the connector block to the fixed contact block and busbar in the switchgear. The faulty (mild steel) bolts were used in all variants of RO range, including RMS and RMK, switchgear manufactured up to and including 1982. It has proved impossible to replace the affected bolts without causing further detriment to the switchgear.</b>
<b>Scope</b>	<p><b>The operational restrictions shall apply to all of the following Reyrolle 11 kV Switchgear manufactured up to and including 1982:</b></p> <ul style="list-style-type: none"> <li><b>• All variants of RO range switchgear, including RMS and RMK;</b></li> <li><b>• Any reconditioned such switchgear manufactured up to and including this date.</b></li> </ul>
<b>Risk</b>	<b>Flashovers in the main tank leading to expulsion of oil and fire</b>
<b>Action</b>	<p><b>With immediate effect the following operational restrictions shall apply:</b></p> <ol style="list-style-type: none"> <li><b>1. Live operation of the switchgear is not permitted;</b></li> <li><b>2. Following dead operation of the switchgear, access to the substation after re-energisation is not permitted for the next 24 hours; and</b></li> <li><b>3. Entry to the substation is restricted to essential operational activities only.</b></li> </ol>