Safety Notice

Health and Safety Warning Notice 98/14

High Voltage oil filled electricity distribution equipment - effects of oil failure

SUBJECT CONTACT POINT:
P D MEAKIN
AD Industrial Processes
Technical Standards Directorate
Sutton Coldfield Mil extn 2169
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NOTICE AUTHORISED BY:
P D MEAKIN
AD Industrial Processes

DEFENCE ESTATE ORGANISATION
MINISTRY OF DEFENCE

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INTRODUCTION

1. THE CONTENTS OF THIS NOTICE ARE TO SECURE COMPLIANCE WITH THE HEALTH & SAFETY AT WORK ETC ACT 1974.

2. This Notice is for the attention of Commanding Officers, Chief Executives, Heads of Establishment, Property Managers, Defence Lands Agents, Establishment Works Consultants (EWCs), Works Services Managers (WSMs), Authorising Engineers, Authorised Persons and Contractors, involved in works for MOD.

3. This Notice is to be read by all persons involved with any works associated with the equipment that is the subject of this Notice.

4. No work involving expenditure on an MOD account is to be carried out without authority from the Property Manager or the appropriate MOD officer for that location or facility.

5. Any work required as a result of this Safety Notice must be carried out in accordance with MOD Safety Rules and Procedures as applicable.

6. The Co-ordinating Authorised Person, or other responsible person, is to notify the Property Manager:

   of the location of any equipment which exists on the Establishment and is the subject of this Notice as soon as it has been identified;

   and

   when the relevant modifications are completed, that the appropriate remedial action has been carried out.

7. Defects are to be immediately reported to the Property Manager and the applicable Authorising Engineer who must impose appropriate operating restrictions on the equipment that is the subject of this Notice, until remedial action is completed.

8. For MOD Establishments occupied by United States Visiting Forces (USVF), the responsibilities of Property Manager, EWC and WSM are jointly held by the USVF and DEO(USF). At base level this jointly managed organisation is to take appropriate action to implement the contents of this Notice. Where this Notice contains procedures which differ significantly from USVF practice, a DEO(USF) Code of Practice section will be issued.

REQUIREMENT
9. ACTION ADDRESSEES ARE TO ENSURE THAT THIS INFORMATION IS PASSED TO THEIR PROPERTY MANAGERS OR OTHER RESPONSIBLE OFFICERS WITHOUT DELAY.

RECOMMENDATION

10. Persons responsible for the maintenance of oil filled electrical distribution equipment are to be reminded of the need to carry out routine oil sampling and testing in accordance with the appropriate British Standard and the version of DEO Specification 005 appropriate to the WSM contract.

BACKGROUND

11. Annex A is a transcript of an Electricity Association Notice which has been received advising of the failure of a 1990 Long and Crawford J4 oil switch as a direct result of defective oil. The content is self explanatory.

12. Under normal operating conditions, with all of the recommended maintenance procedures being carried out at the appropriate time, this type of switchgear should provide reliable service until 2015 and possibly until 2020.
IMMEDIATE NOTIFICATION OF INCIDENT

I am advised by a company participating in this scheme that an incident has occurred as follows:

Equipment Manufacturer: Long and Crawford.

Type Reference: J4 Oil Switches. Serial numbers J4890950, J4890032, J4890038, J4890035.

Operating Voltage: 11000 V.

Brief description of Incident: To isolate a cable a J4 oil switch was operated from the on to the off position. The mechanism was stiff, however the switch handle moved from the on to the off correctly. A further two switching operations at a remote substation was carried out to isolate and earth the cable. Upon earthing the cable the source circuit breaker tripped. The J4 oil switch was checked and the on/off indicator had only partly moved.

Injuries sustained: None.

Immediate action taken by Company: The oil switch was opened up and the oil was found to be very waxy. Steelwork above the oil level was found to have rusted. Upon removal of the oil it was found that the main contacts had spot welded themselves together due to ingress of waxy oil between the contacts. The other three oil switches were found to be in similar state. The board was commissioned in July 1990 and comprised a 5 panel board, the fifth unit being a GF3 which when examined did not show any deterioration. Further investigations are in progress.

END OF SAFETY NOTICE