



Safety Alert Parts A, B, & C

Subject: Lighting, security of fixings

Number: SA2022-11

DIO Sponsor: Andrew Parker

Date of issue: 12th Sep 2022

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This Safety Alert is to be read by the following so appropriate action can be taken:

1. **DIO's Maintenance Management Organisations and their Supply Chains**
2. **DIO Regional Delivery Manager (or equivalent for non-NGEC contracts)**
3. **Head of Establishments**
4. **Others**

Others interested in the content of this Safety Alert might include:

Defence Fire Safety Professionals, Heads of Establishments, Assurance Managers, Estate Facility Managers, Assurance Managers in Regional (Service) Delivery Health & Safety Advisors, Top Level Budget Holders, Prime Contractors, Project Managers, Infrastructure Managers and Property Managers with responsibility for MOD projects and Property Management Works Services (including the legacy work of EWCs/WSMs), Authorised Persons (Electrical), Authorising Engineer (Electrical), etc.

When it takes effect: Immediately

When it is due to expire: 12 months from date of issue

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 Publications as their only means of becoming aware of safety issues, but they should consult widely across other media to maintain awareness.

Aims

1. The aim of this Safety Alert is to bring to the attention of appropriate persons or organisations a recent incident involving the failure of the fixing of a chain suspended luminaire, and to ensure any shortfalls in existing chain fixings are identified and remediated.

Introduction

2. Compliance with the contents of this Safety Alert will enable compliance with the Health & Safety at Work etc. Act 1974 and Electricity at Work Regulations 1989.
3. Any work required as a result of this Safety Alert must be carried out in accordance with the Management of Health & Safety in Ministry of Defence - JSP375.

Background

4. The fixings of a high bay luminaire suspended on chains failed. This led to the luminaire falling to the ground and narrowly missing 2 mechanics.
5. At the time of the failure, the team were running an engine as part of a vehicle's service and functionality check. The engine was running with a high fan speed. The mechanic noticed the luminaire swaying, mostly likely caused by the turbulence of the engine fans which point directly upwards.
6. The investigation identified that the root cause was due to the luminaire being installed incorrectly. The suspension system (chains) and fixings were not compatible. Evidence suggests the luminaires were replaced utilising the existing chains which were not compatible with the luminaire fixings. (See photographs at Annex A.)
7. Additionally, the turbulent air from the engine running caused a swaying action placing additional lateral load on the fixings which lead to the eventual complete failure of the assembly.
8. The security of fixings for permanently connected equipment e.g., luminaires is included as part of the visual inspection of the fixed electrical installation required by BS7671:2018 and any identified deficiencies are recorded in the Observations in the Electrical Installation Condition Report (EICR). Where a Limitation has been recorded removing the high-level luminaires from the inspection or limiting the height of the inspection e.g., to below 3M it is likely the visual inspection of the security of the fixings has not been completed. This may also be the case where 'sampling' has been used for the inspection and testing process

Part A

9. This Safety Alert concerns all suspended high bay luminaires.
10. The Management Maintenance Organisation (MMO), on direction from the DIO Regional Delivery Manager (RDM) or equivalent, shall initiate the following task:
 - a. Identify all suspended high bay luminaires that are affected by this Safety Alert.

11. The requested information is required within 6 calendar months from issue date of this Safety Alert.

Part B

12. The Management Maintenance Organisation (MMO), on direction from the DIO Regional Delivery Manager (RDM) or equivalent, shall initiate the following tasks:

- a. Confirm, or otherwise, to the DIO RDM that a visual inspection of the security of fixings of high-level luminaires has been undertaken as part of the periodic inspection and testing regime of the fixed electrical installations in accordance with BS7671:2018 (SFG44-11 refers, or equivalent in non-FDIS contracts) and any observation codes related to the security of fixings for high-level luminaires have been remediated.
- b. Where part a cannot be confirmed, or there are limitations or sampling as part of the periodic inspection and testing regime that may have prevented the visual inspection of high-level luminaires, an immediate examination of the security of fixings of high bay luminaires is recommended to ensure:
 - i. Suspension wires, chain, trunking, drop rods etc. are securely attached to their fixing's points at ceiling, roof, or beam level and at the luminaire level.
 - ii. Where spring clips are used, they are properly located, and that the suspension system and fixings are compatible.
 - iii. Where hooks are used, its closure point is sufficiently closed/crimped up
 - iv. All fixings are in good condition and that the light unit is securely attached.

Where deficiencies are identified they are to be remediated.

13. Where asset lifecycle replacement is taking place, ensure consideration is given to the fixing methodology, suspension type, and ensuring it is suitable for the environment. e.g., if a workshop area is dedicated for the maintenance of engines which forces air directly towards luminaires, a suspended chain system is unlikely to be the most suitable option.

14. Where a luminaire is replaced and the existing suspension system is used, ensure that the suspension system and the fixings for the new luminaire are compatible and in accordance with manufacturer's recommendations.

15. Actions within part B shall be completed at the next planned maintenance visit or concluded within 12 calendar months the from issue date of this Safety Alert.

Part C

16. The MMO is to notify the DIO Regional Delivery Safety Alerts Team (DIO-RDSafetyAlerts@mod.gov.uk), through their respective DIO Regional Delivery Manager or equivalent, of the actions, if any, resulting from implementing the actions in Part B, Paragraph 12 when completed.

References.

17. The following documents provide further information: -

- a. BS7671: 2018 + A2 2022. Requirements for electrical installations.
- b. SFG schedule 44-11 Periodic Inspection and Testing (27 Aug 21, Version 5)
- c. HFM Standards and Tasks: 104, 105, 109

ANNEX A – PHOTOGRAPHS OF FAILED CHAIN FIXING.

Photograph A. Suspension chains and 3 no. clips



Photograph B. Examples of luminaires suspended and centrally where the luminaire fell.

