



Defence  
Infrastructure  
Organisation

# Safety Alert

**Subject: Charging of Li-ion electric devices in escape routes**

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**DIO Sponsor:** Bryan Dunn

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

1. TLB Fire safety CESOs
2. Head of Establishments
3. Defence fire safety specialists
4. Capita Fire & Rescue
5. Building managers/custodians

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

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 Building Custodians

**When it takes effect:** Immediately

**When it is due to expire:** When updated or rescinded.

Health and Safety

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 the hazards encountered with the charging of battery operated devices in escape routes in particular but also all areas that are unoccupied that have the potential for personal injury and/or property damage in the event of an electric fault. The products that are of concern are used primarily in e-bikes, e-scooters & 'hoverboards' forms of personal transportation devices.

## Introduction

2. Compliance with the contents of this Safety Alert will enable Defence to continually reduce fire risk on the Estate.
3. Any work required because of this Safety Alert must be carried out in accordance with the Management of Health & Safety in Ministry of Defence - JSP375 & Estate Management in Ministry of Defence - JSP 850

## Background

4. Electrically powered personal transportation devices are primarily powered by Lithium Ion batteries and are designed to be recharging with a proprietary charger fed from a 13A socket outlet. The ownership and use of these devices are becoming more common in private dwellings and commercial premises on the Estate.
5. There is a potential for rapid and significant fire spread when the battery and/or charger develop a fault. Also, significant quantities of smoke are produced which affects visibility and potentially impairs the use of escape routes in buildings.
6. Thermal runaway can happen due to numerous reasons including short circuits, faulty design, physical damage to the battery cells, poor manufacturing processes, replacement non-proprietary charging units, etc.
7. The fire risk concerns have recent been brought to our attention via UK Fire & rescue service and industry partner alerts. The link is included for reference <https://www.fia.uk.com/static/2a999c49-760b-47e3-b02f96a2ca89ecd9/Guidance-Document-on-Li-Ion-Battery-Fires-12-20-v1.pdf>

## Part A

8. This Safety Alert concerns the charging of electrical and electronic devices in designated escape routes on the Estate.
9. TLBs should
  - a. review their safety policies to ensure that the charging of electrical and electronic devices is prohibited in Emergency Escape Routes. TLB CESO and Fire specialists can provide support and assistance.
  - b. Assure themselves that the prohibition is reflected in Subordinate unit orders/instructions.
  - c. TLBS should use this opportunity to reinforce the issues and risks of charging all electronic equipment in other locations, particularly sleeping or unoccupied areas. Again, local fire Specialists or CESO Staff can assist.

Known e-bike fires captured on CCTV:



An e-bike in a lift in China within a confined space (lift car) picture taken just before flames erupted



An e-bike on fire in a garden in the Netherlands and a garden hose could not extinguish the flames, it had to burn itself out



An e-bike fire in a common area (escape route) in a block of flats potentially trapping all the occupants