

PR-46 Battery Fire Incident Response Guide

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Version Control

Ver	Date	Revision Description	Author	Owner	Approver
1.0	4/02/25	First Release	AC	CS, Onyx (LH)	Onyx & MMX Execs

Purpose

The purpose of this guide is to document the recommended emergency response actions:

1. to an actual Battery fire incident; and
2. to a suspect faulty battery.

This document will also remind the end user community of the recommendations to prevent fire incidents altogether. Prevention is the best course of action.

Responding to an actual battery fire incident

The end user community (EUC) will appoint an internal manager (internal rep) to coordinate and be the single point of contact for the supplier(s) in particular with the Onyx Distributor.

Understanding Lithium Ion batteries

Due to the unique chemical properties of lithium-ion batteries, standard fire extinguishers are often ineffective in managing fires caused by these batteries. During a battery reaction, it is crucial to avoid direct contact with or movement of the affected battery.

While submerging the battery in water can help mitigate the reaction, this approach poses significant risks to personnel and may be impractical, especially when trying to source water in a timely manner.

The primary objective is to cool and contain the runaway battery and any burning cells. This can be effectively achieved by using a specialized lithium-ion fire blanket to cover the burning batteries or the entire charging device. Alternatively, a metal-based container, such as a metal wastebasket, can be used to encase the burning items.

Applying cold water to the reacting battery is acceptable for cooling purposes and for preventing the fire from spreading to surrounding materials, but this should only be done until the fire is extinguished or until professional firefighting personnel arrive on the scene.

Recommended Emergency Response Steps

1. **Prioritize Safety:** Ensure the safety of all personnel before taking any further action.
2. **Contain the Fire:** Take immediate steps to contain the fire and prevent it from spreading.
3. **Disconnect Power:** Switch off all mains power to the charging device to eliminate any electrical hazards.
4. **Document the Scene:** Before moving any items, take as many photos as possible of the area, including damaged devices and remnants. Start with wide shots of the affected area and then capture close-ups of all impacted devices. Documenting the scene is crucial for identifying the source of the battery fire.
5. **Isolate Damaged Devices:** Keep all damaged devices together, including burnt cells, the charging device, its power supply adaptor, and mains lead.
6. **Capture Detailed Images:** Take close-up photos of all damaged devices from multiple angles (top, side, underneath, etc.).
7. **Gather Witness Statements:** Obtain statements from witnesses as soon as possible, ideally immediately or within 24 hours. Record any observations leading up to the incident, such as unusual noises, smells, smoke, or flames.
8. **Record Incident Details:** Note the date and time of the incident for reference.
9. **Document Location:** Specify the exact location of the incident, including the hospital name, level, ward, room, or section.

10. **Secure Surveillance Footage:** Collect any available surveillance footage of the affected area, ideally covering the 24 hours leading up to the incident and a few minutes afterward.
11. **Contact Onyx Distributor:** Notify the Onyx Distributor and the incumbent reseller or Managed Services provider as soon as possible—preferably within 12 hours of the incident. Refer to the contact details in the appropriate appendix.
12. **Distributor Response:** The Onyx Distributor will respond within 12 hours, providing a single point of contact who will manage and coordinate all local and overseas resources, including the Onyx manufacturer.
13. **Incident Response Plan:** Within 72 hours, the Onyx Distributor will outline an appropriate plan and tactical response, which may include dispatching a team of technicians for a detailed fleet audit and assessment. Damaged parts may be sent to Onyx in Taiwan for further investigation. If goods are out of warranty and critical safety recommendations have not been followed, the Distributor and Manufacturer reserve the right to recover associated costs from the End User Customer (EUC).
14. **Collection Instructions:** The Onyx Distributor will provide further instructions and organize the collection of isolated and damaged goods.
15. **Audit Reports:** The EUC representative is responsible for supplying the Onyx Distributor with reports from the most recent audit inspections.
16. **Final Report Delivery:** Within 10 working business days of completing onsite audit inspections, the Onyx Distributor will compile and deliver any Onyx reports and recommendations to the EUC representative.

Responding to a potential “near miss” fire incident

In the event of a potential near-miss fire incident, the End User Company (EUC) will designate an internal manager (internal representative) to coordinate efforts and serve as the single point of contact for suppliers, particularly the Onyx Distributor.

Identifying Suspicious Battery Behaviour

End users should be vigilant for the following signs that indicate a battery may be behaving suspiciously. If any of these behaviours are observed, immediate action is required, and the battery should be treated as potentially hazardous:

- Crackling noises
- Excessive heat
- Burnt odour
- Smoke or smouldering
- Any other unusual indications

While the response to a suspect battery involves similar actions to those taken during a confirmed incident, the approach is less intense and less time-sensitive.

Response actions on suspect battery

The following recommended steps should be taken upon detecting a suspect battery:

1. **Prioritize Safety:** Ensure the safety of all personnel involved.
2. **Immediate Removal:** Carefully remove the suspect battery from its device without delay.
3. **Secure Storage:** Place the suspect battery in a sealed metal container or use a Lithium-Ion battery blanket. While the risk of combustion diminishes once removed from the charger, this precaution helps mitigate potential hazards.
4. **Power Down:** Switch off any mains power to the charging device immediately.
5. **Document the Scene:** Before moving anything else, take numerous photos of the area. Start with wide shots of the affected area (a few meters back) and then capture close-ups of all devices and components. Detailed documentation is crucial, particularly to identify the charger bay where the suspect battery was located.
6. **Isolate Associated Equipment:** Secure the charging device, its power supply adapter, and mains lead together. Keeping all associated parts together is essential for investigation.
7. **Capture Detailed Photos:** Take clear close-up photos of the following:
 - **Suspect Battery:** Photograph all sides and the serial number label.
 - **6-Bay Charger:** Document all sides and provide close-ups of the internal bays and serial number label.
 - **Power Supply and Mains Lead:** Ensure all connections to the 6-Bay Charger are photographed.
8. **Gather Witness Statements:** Obtain statements from witnesses as soon as possible—preferably immediately or within 24 hours. Document any observations leading up to the incident, such as unusual noises, smells, or behaviors.
9. **Record Incident Details:** Note the date and time of the incident clearly.
10. **Specify the Location:** Document the exact location of the incident (e.g., Hospital, Level, Ward, Room, or Section).
11. **Secure Surveillance Footage:** Obtain any available surveillance footage of the affected area, ideally covering 24 hours prior to and a few minutes after the incident.
12. **Contact Onyx Distributor:** Reach out to the Onyx Distributor and the incumbent reseller or Managed Services provider as soon as practical, preferably within 72 hours. Refer to the contact details in the appropriate appendix.
13. **Distributor Response:** The Onyx Distributor will respond within 48 hours with the details of a designated single point of contact. This representative will coordinate all necessary resources, including those from Onyx, and will liaise directly with the End User representative.
14. **Follow-Up Plan:** Within 72 hours of the incident, the Onyx Distributor will outline a plan and follow-up instructions. Suspect parts may be sent to Onyx in Taiwan for detailed internal analysis.
15. **Collection of Goods:** The Onyx Distributor will provide further instructions and arrange for the collection of isolated and damaged items.

16. **Audit Reports:** The EUC representative must supply the Onyx Distributor with reports from the most recent audit inspections.
17. **Analysis Report:** Upon completing the analysis of the suspect devices, Onyx will provide a report detailing their findings and recommendations. This process may take up to 20 business days from the time Onyx receives the suspect equipment.

Appendix A – Emergency Contact details

In the event of an emergency due to battery related fire incident or potential fire incident “near miss” please use the following channels to contact the ONYX distributor and the Onyx Warranty & Repair Centre.

Emergency email address: emergency@micromax.com.au

The following are the key Onyx Distributor contacts:

Micromax Role/Function	Micromax Personnel	Email	Direct Line
Account Manager	Jennifer Chen	JChen@micromax.com.au	0424 180 802
Technical Support, RMA Warranty & Repairs	Chris Stevens	cstevens@micomax.com.au	0421 137 304
BDE	Anthony Cuoco	acuoco@micromax.com.au	0424 180 802
Managing Director	Antonio Fantasia	afantasia@micromax.com.au	0427 400 422

Appendix B – Recommendations to Prevent Fire Incidents

To minimize risks associated with managing a large and aging battery fleet, we strongly recommend the following:

1. Education and Awareness

- Continuously educate and remind end users to handle all batteries with care and respect. Key points include:
 - Avoid dropping batteries.
 - Do not soak, sanitize, or spray batteries.
 - Remove batteries from use if the casing is cracked, broken, or if pins are bent, damaged, or there are loose internal parts.

2. Reporting and Maintenance

- Encourage end users to promptly report or remove any chargers showing signs of:
 - Liquid or fluid in charging bays.
 - Corrosion or rust on battery connector terminals/pins.

3. Regular Audits and Inspections

- Conduct annual on-site audits and inspections akin to Test and Tag procedures for electrical cables and equipment. This should include:
 - Visual inspections and testing of each battery.
 - Mandatory removal of any failed batteries or devices to ensure optimal fleet performance and minimize hazards, particularly for aging fleets.

4. Charger Maintenance

- Remove any chargers exhibiting corrosion or oxidation on battery connector pins immediately.

5. Charger Replacement

- Replace chargers after five years of use, especially those that are frequently used in non-pristine environments.

6. Upgrade Charger Design

- Consider replacing open 6-bay battery chargers with enclosed versions (e.g., 4-bay chargers with lids) to protect battery bays from external environmental conditions.

7. Secure Charging Areas

- Enclose existing open 6-bay chargers in specialized cabinets to minimize exposure to contaminants and containing fire within the cabinets for additional safety.

8. Battery Management Software

- If feasible, install Orion battery management software across all devices using the batteries. This software can continuously monitor the health of all batteries in use.

By following these recommendations, you can significantly reduce the risk of fire incidents associated with battery use.