



## POSITION STATEMENT SUMMARY

# Open yard storage of battery energy storage systems (BESS)

## Position

Effective 5 December 2024, the following is a position of Fire and Rescue NSW (FRNSW):

Where multiple battery energy storage system (BESS) units are to be temporarily stored in open yards such as a port, depot or project site staging area, FRNSW recommend the following measures to mitigate fire risk and assist with firefighting intervention:

- The BESS units must be segregated into clusters, with each cluster not exceeding 50 metres in length on any side.
- The BESS units must maintain a minimum separation distance of 6 metres from any fire source feature (e.g. at least 6 m away from any building, structure or site boundary).
- Within any cluster of BESS, a minimum separation distance of 1 metre must be maintained along the side of a container that incorporates any access panel, door, or deflagration vent/s.
- Large-scale BESS units, or containers containing BESS, must not be stacked vertically.
- Perimeter access for fire brigade vehicles, as detailed in FRNSW guideline *Access for fire brigade vehicles and firefighters*, should be provided and maintained around each cluster of BESS.
- Any required firefighting equipment (e.g. fire hydrants, automatic fire suppression system) must be operable prior to the delivery and storage of the BESS units.
- Where firefighting equipment is not required, provision for firefighting should be considered for the period of temporary storage in an open yard (e.g. firefighting water supply, particularly on bush fire prone land).
- The state of charge (SOC) for each battery module in the BESS should be limited to the maximum SOC recommended by the manufacturer, the *International Maritime Dangerous Goods Code*, or the United Nations *Recommendations on the Transport of Dangerous Goods*, whichever is less.
- The battery management system (BMS) of each BESS should be active and monitored in accordance with the manufacturer's recommendations.

**Note:** A communication strategy should be developed and implemented to monitor each BMS and ensure local notification is given of any abnormal conditions.

- An emergency plan must be prepared for the site and must have regard to all relevant matters including the nature of the hazards and provide for an effective response to an emergency. Reference should also be made to the FRNSW position *Emergency plan requirements at sites having lithium batteries*.

**Note:** An Interim emergency response procedure should be developed when the proposed fire safety strategies, systems, and measures are not yet in place, such as for temporary storage of large-scale BESS during the pre-commissioning phase of a project.

Reference must be made to the FRNSW website to ensure this position is current at the time of use, and this position has not been superseded or revoked.

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## Summary

NSW is experiencing rapid growth in the renewable energy industry with many simultaneous State significant development projects underway. Most projects involve the installation of a containerised large-scale BESS. These BESS units are generally imported from international manufacturers and supplied to the project site to await installation.

To address the fire risk posed by BESS stored in an open yard, the position recommends the implementation of several measures relating to:

- the separation of BESS units into clusters within defined parameters to minimise fire spread and to enable firefighting intervention, including providing access for fire brigade appliances.
- the installation of any required firefighting equipment, insuring that same is operable prior to the delivery and storage of the BESS units.
- the provision for firefighting when installed firefighting equipment is not otherwise required.
- the activation and monitoring of the BMS, ensuring the SOC is maintained at recommended levels to provide maximum stability and enacting an appropriately coordinated response when any abnormal conditions are encountered.
- the scope and adequacy of the emergency plan in addressing the specific nature of the BESS hazard/s and the provision of an effective response to any emergency that may arise.

This position statement has been authorised for release by Chief Superintendent Fire Safety, FRNSW.

## Contact us

For further information contact the Fire Safety Branch on (02) 9742 7434 or email [firesafety@fire.nsw.gov.au](mailto:firesafety@fire.nsw.gov.au).