

Neighbourhood Battery Energy Storage Systems

Across Victoria, battery energy storage systems are being proposed in local communities to enable the power network to support more rooftop solar. Community or neighbourhood-scale battery energy storage systems range from approximately 100kW to 5MW, and where connected to a section of the electricity distribution network operating with a nominal voltage not exceeding 66,000 volts, may be exempt from planning permit requirements in most planning zones.

CFA's Specialist Risk and Fire Safety Unit can provide expertise to support fire risk management for your specific proposal, including:

- Fire risk considerations in site selection and design.
- Fire brigade access and response requirements.
- Considerations for firefighter and community safety during emergency response.

To ensure fire risk is effectively considered within neighbourhood battery proposals, engaging with CFA as early as possible is essential.

CFA recommends that any proposed neighbourhood battery energy storage system is subject to a comprehensive risk management process.

CFA recommends that the installation complies with AS/NZS 5139-2019: Electrical installations - Safety of battery systems for use with power conversion equipment, where required.

CFA recommends that risk management processes consider the following matters.

Notification to CFA

CFA recommends that neighbourhood batteries are notified to CFA's Specialist Risk and Fire Safety Unit.

- During the initial project development phase, prior to finalising the design.
- At least 30 days prior to commissioning.

CFA recommends that neighbourhood batteries are located within 60m of a serviceable, accessible, compliant, clearly-marked on-site or street fire hydrant.

Siting

CFA recommends that neighbourhood batteries are sited:

- In low-risk locations.
- Only in areas where the **Bushfire Management Overlay** and the **Land Subject to Inundation Overlay** do not apply.
- In the vicinity of a fire water supply that provides coverage to the proposed neighbourhood battery (such as an on-site hydrant, fire water supply or street hydrant).
- Outside the fall/drop zone of overhead trees and branches.
- On a non-combustible surface, such as a concrete plinth.

Where neighbourhood batteries are proposed within 50m of a dwelling, CFA recommends that a Fire Safety Study is prepared to the satisfaction of CFA. Refer to CFA's Design Guidelines and Model Requirements for Renewable Energy Facilities for CFA's expectations for Fire Safety Studies.

CFA recommends that where neighbourhood batteries are located within a commercial or industrial building, the siting, emergency planning and emergency information requirements of CFA's Design Guidelines and Model Requirements for Renewable Energy Facilities are considered.

CFA's Specialist Risk and Fire Safety Unit

risk-info@cfa.vic.gov.au

Neighbourhood Battery Energy Storage Systems (Continued)

Fire Risk Controls

Neighbourhood batteries must be tested in accordance with UL 9540A: Battery Energy Storage System (BESS) Test Method.

CFA recommends that neighbourhood batteries are provided with:

- Security infrastructure, such as fences and cameras.
- Protection from potential mechanical damage.
- Appropriate water ingress protection, including flood water.
- Remote monitoring to ensure that any faults and increases in temperature outside of the defined operating parameters of the manufacturer are immediately intercepted and notified to the emergency services.
- Measures to manage fire water runoff.

Markings

CFA recommends that neighbourhood batteries are provided with prominent markings to the satisfaction of CFA, including:

- Warning notices for the electrical and high voltage hazards as required by AS/NZS 4777.1-2016: Grid connection of energy systems and AS/NZS 5139-2019: Electrical installations.
- Contact details of the owners and specialist response personnel who can provide 24/7/365 support to emergency responders.
- Emergency procedures.

CFA recommends that fire risk controls are determined in consultation with CFA's Specialist Risk and Fire Safety Unit.

CFA Checklist

- Have you consulted with CFA's Specialist Risk and Fire Safety Unit regarding your proposal?
- Has your proposed BESS been tested to UL9540A?
- Have you developed a risk assessment/Risk Management Plan for your proposal?
- Does your risk assessment:
 - Identify fire risk to and from the BESS, including to and from surrounding infrastructure and landscape?
 - Propose risk controls to address the fire hazards and risks (in accordance with this document)?

Maintenance

CFA recommends that neighbourhood batteries are regularly maintained:

- To be clear of combustible materials at all times (eg., fallen leaves, branches and rubbish).
- Through regular inspections, testing and servicing as required under legislation and by the manufacturer.
- Through periodic inspection following significant weather events and reports of damage.



For more information or specific advice on your proposal, please contact CFA's Specialist Risk and Fire Safety Unit at risk-info@cfa.vic.gov.au