Community and Neighbourhood Battery Energy Storage Systems Guideline

OUR COMMUNITY • OUR CFA

Version 1.3, June 2025
CFA Specialist Risk and Fire Safety Unit

Introduction

Across Victoria, battery energy storage systems (BESS) 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. Where they are connected to a section of the electricity distribution network operating with a nominal voltage not exceeding 66,000 volts, they 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 community BESS 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 community BESS proposals, engaging with CFA's Specialist Risk and Fire Safety Unit as early as possible is essential.

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

CFA's Specialist Risk and Fire Safety Unit

risk-info@cfa.vic.gov.au

CFA recommends that risk management processes for community batteries consider the following matters.

Siting

CFA recommends that community 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.
- Within 10m-60m of fire service infrastructure 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.

Where community batteries are proposed within 50m of a dwelling, CFA may recommend that a Fire Safety Study is prepared to the satisfaction of CFA.

Refer to *CFA's Fire Safety Studies for Battery Energy Storage Systems Guidelines* for CFA's expectations for Fire Safety Studies.

CFA recommends that community batteries are located within 10m-60m of a serviceable, accessible, compliant, clearly-marked on-site or street fire hydrant.

CFA recommends that where community 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.

Fire Risk Controls

Community batteries must be tested in accordance with *UL 9540A: Battery Energy Storage System (ESS) Test Method* and should be subject to large-scale fire tests.

CFA recommends that community batteries are installed:

- In accordance with *AS/NZS 5139-2019: Electrical installations - Safety of battery systems for use with power conversion equipment*, where required.
- On a stable, non-combustible surface such as a concrete plinth.

Fire Risk Controls (Continued)

CFA recommends that community batteries are provided with:

- Security infrastructure, such as fences, locked gates and cameras.
- Protection from potential mechanical damage.
- Appropriate water ingress protection, including flood water.
- A minimum 3m fire break.
- 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.

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

Markings

CFA recommends that community 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.

Maintenance

CFA recommends that community 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.

Notification to CFA

CFA recommends that community 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 Checklist

- ☐ Have you consulted with CFA's Specialist Risk and Fire Safety Unit regarding the siting of your proposal?
- ☐ Has your selected BESS unit been tested to UL9540A and undergone full-scale fire tests?
- ☐ Have you developed a risk assessment/Risk Management Plan for your proposal?

  Does your risk assessment/Risk Management Plan:

  - Describe the project, the proposed infrastructure, locations and stakeholders?
  - Identify fire risk to and from the BESS, including to and from surrounding infrastructure and landscape?
  - Propose and commit to risk controls to address the fire hazards and risks?
  - Address the results of fire testing?
- ☐ Has your risk assessment/RMP been provided to CFA's Specialist Risk and Fire Safety Unit for review and advice?
- ☐ Have you developed emergency information that include sa 24/7/365 contact number for emergencies?
- ☐ Have you developed an Emergency Plan?
- ☐ Have you developed a schedule for ongoing inspections and maintenance?
- ☐ Have you notified CFA of the BESS commissioning date?

For more information about CFA's expectations for renewable energy projects and for specific advice on your proposal, contact CFA's Specialist Risk and Fire Safety Unit at **risk-info@cfa.vic.gov.au**.