Thursday, 3 September 2026

NSW Rural Fire Service
4 Murray Rose Avenue
Sydney Olympic Park
NSW 2127

By Email: development.policy@rfs.nsw.gov.au

Dear Development Policy Team,

Re: Draft Planning for Bush Fire Protection 2026

The Clean Energy Council (***CEC***) welcomes the opportunity to provide this submission to the NSW Rural Fire Service (***NSW RFS***) in relation to the draft *Planning for Bush Fire Protection 2026: A Guide for Councils, Planners, Fire Authorities and Developers* (***Draft PBP***).

The CEC is the peak body for the clean energy industry in Australia, representing nearly 1,000 businesses operating across renewable energy generation, energy storage and the broader clean energy supply chain. Our members include developers, owners and operators of, and investors in, wind energy facilities, solar energy facilities, battery energy storage systems (***BESS***), and associated infrastructure.

The CEC also takes this opportunity to thank the NSW RFS for its critical service in firefighting, emergency response and risk mitigation. As climate change contributes to changes in fire weather through its impacts on temperature, relative humidity, fuel moisture content and fuel loads, we recognise the increasingly critical role that the NSW RFS and equivalent agencies in other states play in protecting our communities. We also emphasise the important role of renewable energy in addressing climate change and reducing these risks over time.

Summary

As a general comment, we recommend in a number of instances shifting away from prescriptive requirements in the Draft PBP to a risk-based approach that is more tailored and appropriate for the site. This approach reduces onerous conditions where unnecessary and ensures that requirements are suitable where high risk situations arise. Our recommendations are as follows:

Recommendation 1: We recommend clarifying the status of the Draft PBP; any mandatory requirements should be clearly stated.

Recommendation 2: The CEC recommends moving away from prescriptive radiant heat thresholds and adopting a risk-based approach that allows for project-specific assessment.

Recommendation 3: We recommend that NSW RFS consult directly with original equipment manufacturers (***OEMs***) and other relevant battery and renewable energy technology suppliers, developers and operators to ensure the Draft PBP reflects current product specifications, fire resilience measures and operational response requirements.

Recommendation 4: The CEC recommends that NSW RFS clarify the purpose and focus of the proposed protections, including whether particular requirements are intended to protect the public, protect assets, prevent bush fire spread, manage a fire originating within a BESS facility, or protect BESS infrastructure from an external bush fire.

Recommendation 5: We recommend removing the prescriptive requirement for a static water supply of 50,000L where reticulated water is not available. We instead recommend a tailored approach having regard to the specific site.

Recommendation 6: The CEC recommends taking a risk based approach to the road layout and access requirements.

Further detail

Overly prescriptive guidance

Although the Draft PBP is described as guidance, there are references that 'any departure from the guidance provided in Section 7.4 [regarding bushfire protection measures, including for renewable energy infrastructure] should be clearly justified through the risk assessment'.[1] This risks the guidance operating in practice as a mandatory standard, particularly where it contains detailed and prescriptive requirements for BESS developments. For example, as discussed below, the Draft PBP proposes a fixed radiant heat threshold of 10 kW/m² for BESS, prescriptive water supply requirements and requirements for multiple points of entry.

If these requirements are intended to be mandatory, this should be clearly stated and supported by a clear rationale. If they are intended to operate as guidance, the Draft PBP should provide greater flexibility for proponents to demonstrate equivalent or better bush fire protection outcomes through project-specific evidence, technical assessment and risk-based design.

Recommendation 1: clarify the status of the Draft PBP; any mandatory requirements should be clearly stated.

[1] Draft PBP, section 7.2.2, page 69.

Proposed Radiant Heat Threshold of 10 kW/m² for BESS

The proposed radiant heat threshold of 10 kW/m² at 1,090K for BESS lacks a clear technical basis. [2] Rather than applying a fixed threshold, the CEC recommends adopting a risk-based approach. In making this recommendation, the CEC notes the following matters for further consideration:

- **The rationale for the 10 kW/m² threshold does not adequately consider the risk profile for BESS.** We understand that, for Special Fire Protection Purpose development, a 10 kW/m² threshold is typically applied based on a flame temperature of 1200K, with the underlying rationale that people can survive exposure during evacuation for up to two minutes. BESS infrastructure presents a different risk profile (e.g. because infrastructure is often unmanned). The relevant assessment should focus on the performance and resilience of the infrastructure and the risk of fire spread beyond the facility. We recommend clarifying the basis and justification for the threshold of 10 kW/m² at 1,090K.
- **A risk-based approach would provide flexibility to adapt to changing technology.** OEMs are continuously innovating and improving product design, including fire resilience. The CEC has received feedback that NSW RFS should allow performance assessment based on system-specific parameters, rather than applying a fixed radiant heat threshold. This would also enable proponents to adjust the requirements having regard to the specific asset, which has added benefits to reducing clearing and project impacts (as discussed below).
- **The purpose of the threshold should be clarified.** It is unclear whether the threshold is intended to protect people, BESS infrastructure or surrounding vegetation from fire spread. For example, it is unclear whether the required Asset Protection Zone (***APZ***) distance should be determined by the level of radiant heat exposure that BESS infrastructure can withstand without failure or ignition. From an operational firefighting perspective, current industry practice is often to allow a battery fire to burn out under controlled conditions rather than undertake direct suppression. It is therefore unclear whether the proposed setback is intended to facilitate firefighting operations, protect BESS infrastructure, or prevent fire spread into adjoining vegetation. The design objective should be clearly defined, as each outcome may lead to a different APZ requirement.
- **The Draft PBP should distinguish between protecting BESS infrastructure from external fire and responding to an onsite fire.** The Draft PBP should distinguish between protecting BESS infrastructure from external bush fire exposure and preventing a battery fire from spreading into surrounding vegetation or bushland. BESS facilities are typically designed with separation distances between containers to reduce the risk of fire propagation between units. APZ requirements should therefore take account of expected flame lengths, fire behaviour and separation distances associated with a battery fire, with setbacks based on preventing fire spread beyond the facility rather than solely protecting the BESS itself.
- **The threshold has significant implications for environmental and project impacts.** The radiant heat threshold will influence project design, land take, vegetation clearing, civil works, water infrastructure and development costs. For example, applying different Bush Fire Attack Levels

[2] Draft PBP, section 7.4.1.4, page 74.

(***BALs***) can materially change the required separation distance from an asset to bush fire hazard. The Draft PBP states that an 'APZ is one way that separation distances can be provided'.[3] On a relatively level site surrounded by grassland, our understanding is that a BAL-10 rating (which is equivalent to a radiant heat threshold of 10 kW/m²) may require an APZ of approximately 30 metres, while a BAL-12.5 rating may require an APZ of approximately 23 metres. In contrast, a BAL-29 rating may require an APZ of approximately 11 metres. We understand that sites with denser vegetation or steeper slopes could require APZs of up to 100 metres. These outcomes could significantly affect environmental assessment requirements, project impacts and offset obligations. The Draft PBP should clarify the relationship between BALs, radiant heat thresholds, separation distances and APZ requirements so proponents can apply these concepts consistently.

Recommendation 2: The CEC recommends moving away from prescriptive radiant heat thresholds and adopting a risk-based approach that allows for project-specific assessment.

Recommendation 3: We recommend that NSW RFS consult directly with OEMs and other relevant battery and renewable energy technology suppliers, developers and operators to ensure the Draft PBP reflects current product specifications, fire resilience measures and operational response requirements.

Recommendation 4: The CEC recommends that NSW RFS clarify the purpose and focus of the proposed protections, including whether particular requirements are intended to protect the public, protect assets, prevent bush fire spread, manage a fire originating within a BESS facility, or protect BESS infrastructure from an external bush fire.

Water supply

The Draft PBP states that where reticulated water is not available, solar energy systems and BESS require 'a static water supply of 50,000 L'.[4] Section A5.1.4 regarding static water supply requirements states that 'except where the use is for residential, unless prohibited by site constraints, the tank must be positioned at least 10 m away from any building(s) and/or asset(s) and/or hazards but no further than 60 m away from the most distant external elevation of the building / asset'.[5]

Given the limited benefit of water for directly suppressing lithium-ion battery fires, the proposed requirement appears overly onerous unless its purpose and practical benefit are clearly explained. The CEC notes that static water supply may be more relevant to protecting the site perimeter and adjoining assets than to extinguishing a battery fire directly.

Applying the same requirement to all large scale BESS and solar energy systems, regardless of installed capacity or facility footprint, appears overly onerous. In line with previous recommendations to increase flexibility, we recommend that the required water supply strategy should consider the surrounding vegetation hazard, credible firefighting tactics, the size and configuration of the development, internal fire systems, the availability and reliability of other water sources, appliance

[3] Draft PBP, section 1.2.1, page 20.
[4] Draft PBP, sections 7.4.1.1 and 7.4.1.4, pages 71 and 74.
[5] Draft PBP, A5.1.4, page 123.

access and the intended use of the water. Where a battery fire is to be managed through cooling, containment or controlled burn-out, that strategy and the associated firewater and contaminated runoff requirements should also be clearly distinguished from water required to suppress a surrounding bush fire.

Recommendation 5: We recommend removing the prescriptive requirement for a static water supply of 50,000L where reticulated water is not available. We recommend a tailored approach having regard to the specific site.

Multiple points of entry and dead end roads

The Draft PBP requires that wind, solar and BESS infrastructure must all have: 'a minimum of two separate and safe vehicle entry/exit points located on opposite ends of the road network to enable multiple avenues of entry and evacuation in the event of a bush fire. Additional access points may be required and should be based on a risk assessment considering the site characteristics'.[6] In addition, vehicle access must be provided to all parts of the development for a BESS and to the base of each turbine for wind.

Many sites will not have multiple road frontages and some may only be accessible via a single battle-axe-style entry. A risk assessment pathway that allows a single entry and exit point, where appropriate mitigation measures are demonstrated, would provide a more practical and proportionate alternative.

We recommend that assessment should consider site size, configuration, occupancy, responder strategy, whether direct intervention in a battery event is appropriate, vegetation hazard location, alternative access, appliance type, safe standoff distances, de-energisation requirements and whether an appliance needs to circulate around the complete facility. The internal road and trail network should be designed around the emergency response strategy, rather than the emergency response being designed around a predetermined road layout.

Similarly, dead end roads outside of hazard areas should be generally allowed for. Appendix 4 of the Draft PBP suggests these are discouraged. This may be practically challenging. Development viability would benefit from additional flexibility around site layout, including allowing for dead end roads.

Recommendation 6: We recommend taking a risk based approach to the road layout and access requirements.

[6] Draft PBP, sections 7.4.1.1 to 7.4.1.4, pages 71-74.

The CEC welcomes further engagement in relation to this matter. If you have any queries or would like to discuss this submission in more detail please contact Elise Rutherfurd on erutherfurd@cleanenergycouncil.org.au or Tiana MacLeod on tmacleod@cleanenergycouncil.org.au.

Kind regards

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