

Michael Dimitrakopoulos

From: John Marks
Sent: Monday, 30 June 2025 3:20 PM
To: Michael Dimitrakopoulos
Cc: Doris Yau
Subject: 5277 HAZARDs Input SEARs, Mount Lambie Wind Farm (SSD-86097208)

Dear Michael

The hazards team has reviewed the relevant information for Mount Lambie Wind Farm (SSD-86097208).

Proposed Development

The proposed development (proposal) is for the construction and operation of approximately 20 wind turbine generators (WTGs), each with a height of 285 meters and a total generating capacity of up to 200 MW. The proposal includes a battery storage system (BESS) with a capacity of 100 MW, providing up to 6 hours of storage (600 MWh). The BESS technology has not been described.

Key Hazards Requirements***High Pressure Dangerous Goods Pipelines***

We have checked the location, in and around Mount Lambie New South Wales, 2790 and found that lots contain or are affected by a high-pressure dangerous goods pipeline. This pipeline is the Lithgow to Young Pipeline (PL 17) which is operated by the APA Group. This pipeline is licensed under the Pipelines Act 1967 and subject to the requirement under the SEPP (Transport and Infrastructure) 2021, Division 12A, Clause 2.77. As such, the Applicant must demonstrate that consultation with the relevant pipeline operator and address any concerns of the operator. Since the proposed development is classified as industrial and is unlikely to accommodate a significant population, a pipeline risk analysis is not considered necessary.

Blade Throw

The proposed development will involve WTGs a hazard analysis of the blade throw risk should be included. This hazard analysis must consider the risks for associated and non-associated dwellings and the BESS.

Dangerous Goods

The proposal may involve the storage of dangerous goods. It is recommended that the EIS includes a preliminary risk screening in accordance with the Department's *Hazardous and Offensive Development Application Guidelines 'Applying SEPP 33'*. If the preliminary risk screening exceeds the threshold quantities in 'Applying SEPP 33' a preliminary hazard analysis (PHA) must be undertaken as required by *SEPP (Resilience and Hazards) 2021*. This screening must include dangerous goods related to the battery technology selected.

Battery Energy Storage System

As the proposed development includes a BESSs, and the total BESS peak delivery capacity exceeds 30 MW, the Applicant must prepare a Preliminary Hazard Analysis (PHA) for the batteries.

Since the proposal does not specify a preferred battery energy storage type, the SEARs for BESS must assess risks associated with various chemistries and processes. As a result, specific requirements have been incorporated into the BESS SEARs

As the energy storage may involve unique chemistry and elevated temperatures, the Applicant must also demonstrate consultation with Fire and Rescue NSW (FRNSW) and confirm if the current Fire Safety Guideline, Technical Information, D22/107002, Large-scale external lithium-ion battery energy storage system- Fire Safety Study Guidelines (Version 01, 26 July 2023) remains valid for these battery technologies.

Bushfire

Given the proximity of the proposed development to an identified bushfire-prone area, the PHA must assess its effects on the batteries.

Recommended SEARs

We have reviewed the draft SEARs and recommend that the requirement to undertake a PHA. Given the technology is not specified specific requirements are requested. Furthermore, given a high-pressure dangerous pipeline is located in, or affect lots in the proposal, a SEARs to consider the pipeline is included.

The changes to the draft SEARs are highlighted in RED.

- *Battery Energy Storage System -- a Preliminary Hazard Analysis (PHA) prepared in accordance with Hazardous Industry Planning Advisory Paper No. 6 – Guideline for Hazard Analysis (DoP, 2011) and Multi-Level Risk Assessment (DoP, 2011). The PHA must assess the risks and demonstrate compliance with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning (DoP, 2011) for all proposed energy storage technologies. The PHA must also include the following for any proposed energy storage solutions:*
 - a description of the battery energy technology proposed;
 - clear identification of layout, storage and handling quantities, types of chemicals, flow rates (if applicable);
 - hazard identification including and not limited to hazards that may be unique for the chosen chemistry or operating parameters (such as elevated temperature);
 - demonstration of the area allocated for BESS is adequate with consideration of the separation distances to on-site or off-site receptors, and the separation distances between batteries are sufficient to minimise propagation;
 - consideration of the effects of bushfire on batteries;
 - consideration of the blade throw risks on the batteries;
 - except for lithium-ion BESS, risk analysis must be based on a first-principles approach;
- *Blade Throw – assess blade throw risks, including consideration of associated dwellings, non-associated dwellings and neighbouring infrastructure;*
- *Dangerous Goods – a preliminary risk screening completed in accordance with the State Environmental Planning Policy (Resilience and Hazards) 2021.*
- *Pipeline - Report on the consultation outcomes with the pipeline operator to ensure the safety of the pipeline is appropriately considered and any specific concern raised by the pipeline operator is capable of being adequately addressed.*

Information for Applicant

Lithium-Ion Batteries

The following information is provided to assist the Applicant in undertaking a PHA for a BESS using lithium batteries. The PHA should:

- Demonstrate that the separation distances between the BESS to on-site or off-site receptors and the separation distances between battery enclosures will reduce the risk of fire propagation.

For reference, Fire and Rescue NSW has released technical guidelines on Fire Safety Study requirements, which should be considered. See Fire Safety Guideline, Technical Information, D22/107002, Large-scale external lithium-ion battery energy storage system- Fire Safety Study Guidelines, Version 01, 26 July 2023.

- Verify that the areas designated for BESS are sufficient considering separation distances between battery enclosures; and
- Demonstrate that the fire risks from BESS can comply with the Department's Hazardous Industry Advisory Paper No. 4, 'Risk Criteria for Land Use Safety Planning.'

In undertaking the hazard analysis, the following should be included:

- Consideration of the most recent standards and codes such as and not limited to FM Global DS 5-33, NFPA 855, AS 5139, IEC 62897, UL 9540, and UL 9540A test reports when establishing separation distances; and
- Consideration of the scenarios and findings from the reports on the 2021 Victorian Big Battery fire, including fire propagation to the topside of the adjacent batteries.

Other Energy Storage

If a battery energy storage technology other than lithium-ion is selected, the Applicant requested to contact the Department for further guidance.

External Links

The Fire and Rescue NSW, Fire Safety Guideline can be obtained from

<https://www.fire.nsw.gov.au/gallery/files/pdf/guidelines/Tech%20info%20sheet%20-%20Large-scale%20external%20LiBESS%20-%20Fire%20safety%20study%20considerations.pdf>

The reports on the 2021 Victorian Big Battery Fire can be obtained from:

<https://victorianbigbattery.com.au/wp-content/uploads/2023/10/VBB-Fire-Independent-Report-of-Technical-Findings.pdf>

https://www.esv.vic.gov.au/sites/default/files/2022-12/VBB_StatementOfFindings_FINAL_28Sep2021.pdf