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EPA Advice on Environmental Impact Statement Great Western Battery (SSD-12346552)

Dear Ms Chiu,

Thank you for the request for advice from Public Authority Consultation (PAE-38038136), requesting a review by the NSW Environment Protection Authority (EPA) of the Environmental Impact Statement (EIS) for the proposed 'Great Western Battery' (SSD-12346552) at 173 Brays Lane, Wallerawang, NSW 2845.

The EPA has reviewed the following documents:

- Great Western Battery: Environmental Impact Statement (AECOM February 2022) along with the supporting documents.

The EPA understands the proposal is for:

1. Construction, operation and maintenance of a battery energy storage system (BESS) of approximately 500 megawatts (MW) and approximately 1000 megawatt-hour (MWh).
2. A new transmission line to connect the existing Transgrid 330 kilovolt (kV) substation at Wallerawang to the proposed battery energy storage system (BESS).
3. Ancillary elements including site access from Brays Lane, construction of permanent operations buildings, and establishment of noise walls.

The EPA has the following comments and recommendations:

1. Matters to be addressed prior to determination

Environment Protection Authority Licensing

As stated in Section 5.4.4 of the EIS, Schedule 1 of the *Protection of the Environment Operations Act 1997* (the POEO Act) determines the list of activities requiring an Environment Protection Licence (EPL). Specifically, Clause 17 of the POEO Act applies to 'electricity generation' as stated on page 58 of the EIS "*the project does not involve the generation of electricity*" as the "*project stores and releases electricity that has already been generated*".

The EPA notes that the previous statements appear in contrast with those on page 2 of the EIS as follows, "*the purpose of the project is to store energy in chemical form and generate electrical energy*

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on demand in discharge mode". In addition, on page 2 of the EIS several references are made to the project meeting the definition of electricity generating works as determined by the NSW *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) via Clause 34 and Schedule 1, Clause 20 of the of the SRD SEPP.

Recommendation: The EPA is seeking clarification on the Great Western Battery project being defined as electricity generating works or not, for the purposes of the POEO Act.

2. Heating, Ventilation and Air Conditioning Units

The EPA notes that cooling water will be utilised within the heating, ventilation, and air-conditioning unit (HVAC) systems.

Recommendation: The EPA requests information regarding the HVAC system, specifically the volumes, handling, storage, treatment, and or disposal of the cooling water associated with the HVAC system.

3. Noise Impact Assessment

In summary, the key matters identified are as follows:

- The calculation of rating background levels (RBL) and the number of valid periods in the monitoring, particularly during the evening period at monitoring locations 1 and 3.
- Matters raised on the RBLs have the potential to affect the Project Noise Trigger Levels.
- Lack of detail regarding the assessment of annoying characteristics using Noise Policy for Industry (NPfI) Fact Sheet C.
- Potential uncertainty regarding the sound power levels of the cooling systems and proposed operational duty during the night.
- Significant mitigation is recommended in the NIA including extensive 10m absorptive barriers and at-property treatment.
- Residual impacts of a degree requiring consideration of at-property treatment.

The EPA requires clarification on the following matters:

a. Noise monitoring

Noise levels at Location 1 has 2 during the evening periods on the 13 and 15 March 2021 are significantly higher than all other periods. The RBLs recorded on these days are 47 and 50 dB, which is more than 10 dB above the next highest measured evening RBL. This suggests that they are not representative of long-term background noise level trends and should not be included in the calculation of the RBL.

The EPA considers that unless the applicant can demonstrate that RBLs of this level occurs consistently all year round, they should be considered extraneous and not included in the calculation of the RBL.

The monitoring at Location 2 at 113 Brays Lane, Wallerawang does not appear to have enough valid periods, however since the minimum RBLs have been used, it does not affect the outcome of the assessment and no further comment is made.

The monitoring at Location 3 at 29 Cripps Ave, Wallerawang does not appear to have enough valid data as Table 2-2 shows that only 4 valid periods were measured out of a minimum of 21 periods (7 days valid data). However, in Table 4-1, the intrusive level for the evening has been set at 35 dBA.

Recommendation: The EPA considers that either additional data is provided regarding to demonstrate this is representative of long-term levels with sufficient valid data, or the minimum RBL of 30 dBA should be used for locations 1, 2 and 3.

b. Project Noise Trigger Levels

Recommendation: The project noise trigger levels in Chapter 4 would need to be reviewed and amended accordingly following the resolution of the matters raised on the RBLs.

c. Annoying characteristics

It's not clear how annoying characteristics have been assessed as NIA Chapter 6.3.1 does not demonstrate that the procedure in NPfI Fact Sheet C has been followed. The EPA also notes that the assessment is not limited to the only closest receiver and other impacts may be present at other receivers.

Recommendations: The EPA considers that the calculations and data used to support the NIA's conclusions that no annoying characteristics are present, and NPfI methods were followed need to be transparently provided.

d. Noise mitigation

Table 6-2 provides a clear and informative report of the considered mitigation measures. The EPA welcomes this type of presentation of mitigation investigations.

However, in Table 6-2, there is no discussion of methods to lower noise emissions/reducing site operations at night. There are exceedances of the PNTLs of up to 4 dB during the night, and whilst it appears a lower sound power level was used for the night period, the investigation and assessment of mitigation for the night period should be provided and clarified.

On other BESS systems the EPA has reviewed, a possible mitigation measure has been to reduce fan duty to 20% at appropriate periods with estimated reductions in the region of 14 dB.

Recommendation: The EPA considers that the applicant should comment on what causes the difference in day/night sound power levels for the battery packs, what specific night-time measures have been considered and if controlling fan duties was included as part of the mitigation considerations.

It also appears from EIS Figure 4-1 and NIA Figure 2-1 that the noise walls have openings/gaps in their southern ends. Reviewing the location of the BESS relative to the receivers, it appears that these openings are in the same direction as the receivers, which appears to have the potential to reduce the effectiveness of the barriers. The EPA would expect the applicant to provide an explanation and justification for these barrier design features or provide an alternative design with improved mitigation performance.

e. Outcomes and impacts

The application has identified noise levels up to 4 dB above the PNTLs during the day, evening and night at three existing residential receivers near to the proposed BESS. These predicted impacts are with extensive mitigation works proposed, including significant structures in 10m noise walls with an acoustic absorptive lining and lower noise equipment selected.

The NPfI classifies these residential impacts as a moderate impact and suggests that at-property treatment may be used to assist in reducing impacts.

Recommendation: As a result, the EPA recommends that DPEI carefully consider the outcomes of the NIA and the risk of additional impacts considering the already high

degree of mitigation applied to the proposed operations and the potential uncertainty regarding equipment sound power levels indicated in the NIA.

If you have any questions about this request, please contact Allan Adams on (02) 6333 3804 or via email at info@epa.nsw.gov.au.

Yours sincerely

A handwritten signature in black ink, appearing to read 'SL', is positioned above the printed name and title.

SHERIDAN LEDGER
A/Manager
Regulatory Operations Regional South