Transport for NSW

29 May 2025

TfNSW reference: REN25/00109/001
DPHI reference: SSD-83968208

Department of Planning, Housing and Infrastructure
Locked Bag 5022
PARRAMATTA NSW 2124

Attention: Rita Hatem

SSD-83968208, Sandy Creek Battery Energy Storage System, Muswellbrook LGA; Request for Secretary's Environmental Assessment Requirements (SEARS)

Thank you for referring the request for SEARs to Transport for NSW (TfNSW) for the Sandy Creek Battery Energy Storage System (BESS) located within the Muswellbrook Local Government Area (LGA).

TfNSW has reviewed the Scoping Study prepared for the Sandy Creek BESS by Edify Energy dated April 2025 and provides advice in **Attachment A** and **Attachment B** to assist in the preparation of the Environmental Impact Statement (EIS) and supporting documentation for the future lodgement of the application with the Department of Planning, Housing and Infrastructure.

TfNSW recommends a meeting to discuss the SEARs requirements before proceeding to EIS.

If you have any questions or wish to discuss this matter further, please get in touch with Glen Hanchard, Development Services Case Officer, on 1300 019 680 or email development.renewables@transport.nsw.gov.au

Yours sincerely,

Alexandra Power
Team Leader - Development Services – Renewables
Transport Planning
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Attachment A

SSD-83968208, Sandy Creek Battery Energy Storage System, Muswellbrook LGA; Request for Secretary's Environmental Assessment Requirements (SEARS)

TfNSW advice for SEARs

The Environmental Impact Statement to be submitted as part of the environmental planning process will need to include a Traffic Impact Assessment (TIA) prepared following the methodology set out in *Guide to Traffic Impact Assessment (GTIA) 2024* and Part 12 *Austroads Guide to Traffic Management* and must include an assessment of the following matters:

1. Hours, days and periods of construction.
2. Schedule for phasing/staging of the project (including pre-construction, accommodation and ancillary infrastructure works) and identifying the traffic volumes for each stage.
3. Clearly identify each access, emergency access and access track connected to the State road network and justify the need for each access or access track.
4. Traffic volumes:
    a. Surveyed existing background traffic at key intersections per Part 3 *Austroads Guide to Traffic Management* with survey raw data included.
    b. Project-related traffic volumes (measured as vehicle trips per an hour and per a day) for each stage including pre-construction, construction, operation, and decommissioning and identifying peak period(s) for traffic volumes.
5. Traffic volumes are to include a description of:
    a. Ratio of light vehicles to heavy vehicles during the AM/PM peak hour and the turning direction,
    b. Differentiation of the low risk Over Size/Over Mass (OSOM) (i.e OSOM that require a pilot or escort but do not require an NHVR permit),
    c. Project related traffic interaction with existing and projected background traffic with annual growth rate applied linearly,
    d. Peak times for existing background and proposed project related peak hours, and
    e. Transportation hours.
6. The origin, destination and routes for:
    a. Employee and contractor light traffic.
    b. Heavy vehicle traffic.
    c. OSOM vehicle traffic (for OSOMs that require pilot or escort but do not require an NHVR permit),
    d. OSOM high risk loads.
    e. A description of all non-high risk OSOM vehicles and materials to be transported. The shortest and least trafficked route is to be given priority for movement of materials and machinery to minimise risk and impact to other motorists, so far as is reasonably practicable.

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f. The impact of generated traffic and measures employed to ensure efficiency, safety and impacts to assets on the state road network during pre-construction minor works, staging of workforce accommodation (until completion), any parallel activities occurring before commencement of the construction phase, construction, operation and decommissioning of the project. This includes enforcement, managing traffic volumes, driver behaviour and access paths to the site. The assessment identifies road upgrades, modification and high-level enforceable mitigation measures to manage traffic volumes, driver behavior and site access paths for all project stages.

g. A turn warrant assessment for all stages of the development (i.e project peak hour is different to network peak hour for construction and pre-construction minor works, pre-construction minor works, staging of workforce accommodation and overlapping activities that are likely to occur before construction of intersection upgrades on the State road network) and must also include an assessment of the worst-case scenario (ie peak project traffic volumes applied to peak background traffic, linear growth rate and cumulative traffic of developments at EIS and approved stages that will be present in the background and turning traffic volumes). The turn warrant assessments are to be prepared in accordance with section 3.25 of Part 6 of the *Austroads Guide to Traffic Management.* A turn warrant assessment will be required for each scenario identified above and assessed for each access, access track and any other access along the project's identified routes with an interface or connection to the state road network.

h. TIA is to detail improvements to the state road network, such as road widening, modifications and intersection treatments, to cater for and to mitigate the impact of project-related traffic (including accommodation and ancillary infrastructure components) at key intersections with State roads. Proposed road facilities, access, and intersection treatments will be identified and comply with Austroads Guide to Traffic Management, *Austroads Guide to Road Design,* TfNSW Supplements, and Technical Directions, including safe intersection sight distance. Strategic designs are to include swept path analysis for the largest vehicle (check and design) turning at the intersection(s), access points or access tracks. To assist the proponent in preparing strategic designs, the below link is provided: Strategic-Design-requirements-for-DA-Factsheet.pdf (nsw.gov.au)

Note: The design speed for state roads is the posted speed +10km/hr.

Note: It is the proponent's responsibility to acquire and dedicate land required to accommodate road infrastructure including, but not limited to, footways, structures, stormwater drainage, batters, maintenance access and utilities.

7. Traffic safety assessment:

a. Local climate conditions that may affect road safety for vehicles used during the project's construction, operation, and decommissioning (e.g., fog, wet weather, etc.).

b. A review of crash data along the identified transport route/s for the most recent 5-year reporting period and an assessment of road safety along the proposed transport route(s).

c. Measures to be employed to ensure a high level of road safety for daily staff commutes between accommodation and construction site(s), specifically addressing impacts of unsafe driver behaviour and driver fatigue for all project stages and how measures employed will be enforced.

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8. Details of emergency access/egress, including details of:
    a. The location of the emergency access(es).
    b. How will the access be managed (e.g., gates) to prevent non-emergency-related vehicle movements from using the access(es) during construction, operation and decommissioning.
    c. Sufficient storage at the throat of the access allows emergency vehicle(s) to store within the access, not within the through lane or road shoulder.
    d. Assessment of Safe Intersection Sight Distance (SISD) in accordance with *Part 4A of Austroads Guide to Road Design.*

Electricity transmission lines or other pipelines near or crossing State road network (where applicable)

9. In relation to the EIS, TfNSW requires the identification of ancillary infrastructure, such as Electricity Transmission Lines that are crossing or near the state-classified road network or rail infrastructure within TfNSW remit. For this matter, the following information is required:
    a. The heights or depths (under boring) and the vertical and horizontal clearances (overhead) by Austroads.
    b. The method for the construction of the transmission lines.
    c. Location of infrastructure and impacts (excavation or fill) relative to the road reserve, including demarcation of local and state-classified road reserves.
    d. Access required to construct and maintain the infrastructure. Access points or access tracks required for ETLs or other infrastructure will need the same level of assessment as the primary project access point.
    e. Any trenchless excavation of the pipeline or any transmission lines near or crossing the State road network must comply with *TfNSW Technical Direction-Geotechnical (GTD208-002*) for Trenchless Excavation within the Road and Maritime Infrastructure.
    f. Pipelines and transmission lines must cross the State road network at right angles.
    g. Strategic concept designs must be provided for each transmission line crossing the state-classified road network.

Muswellbrook and Sandy Creek Road/New England Highway

10. When the train is operational on Sandy Creek Road, traffic assessment will be required at the intersection to determine queue lengths using SIDRA.
11. Turn warrants assessment (as per the requirements above) of the different traffic scenarios at this intersection, including the cumulative traffic scenario of other State Significant Developments that will use this intersection, within the background and turning traffic volumes.
12. Provide a strategic concept design of the intersection treatments required at this intersection, including swept paths for the design heavy vehicle and high-risk OSOM.

Muswellbrook Bypass

13. TfNSW recommends early discussions about the proposed project footprint and ancillary infrastructure to assess the interactions and impacts with the Muswellbrook bypass.

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Attachment B

Concept Level Route Analysis required for High Risk OSOM

1. The route assessment is required for high risk OSOM (as defined on TfNSW website) delivering components to the project. The concept level route analysis must include:

   a. Port or point of origin for the entire route to the site access and intersections required to facilitate high-risk OSOM movements needed for the project.
   b. Overall combination type, configuration, load and vehicle configuration and must include
      - GSM,
      - Overall dimensions (width, height, length),
      - Deck height,
      - axle configuration,
      - axle spacing, including from the prime mover,
      - axle masses,
      - split axles, and
      - NHVR route planner ID.
   b. The route analysis will include all high-risk OSOM loads, vehicle configurations, and laden dimensions and weights.
   c. The location of pull-over bays/rest areas along high-risk OSOM routes (including GPS coordinates) and the demonstration through swept paths that high-risk OSOMs can be physically accommodated for the project, in terms of size, width, and accessibility.
   d. Bridge and culvert assessments are needed for any at-risk bridges on classified roads due to the dimensions and weight of OSOM vehicles on the state road network. Contact spu@transport.nsw.gov.au to discuss the process and bridge assessment fees.
   e. Highlighting each at-risk road structure that the haulage route crosses, including bridges, traffic signals, signage, major culverts, and minor culverts that may not meet the desirable cover to cater for proposed axle loads.
   f. Identifying the traffic mitigation measures, road works, modifications, or upgrades to facilitate the movement of the high-risk OSOM(s) associated with the project.
   g. Potential high-level mitigation measures or commitments to mitigate known traffic, safety and impacts to road users along the high-risk OSOM route (i.e school bus routes, mining shift changes, TSRs, harvest periods and events).
   h. Identify and assess implications of any road and rail projects under construction during the indicative schedule for project-related OSOM movements.
   i. Assess any narrow sections of the State Road network (i.e the total width of the lanes and shoulders) which would be too narrow to prevent through traffic on the State Road network from passing the high-risk OSOM required for the project. Traffic mitigation measures, road upgrades and modifications would need to be included within the route analysis to demonstrate how traffic in the through lanes could safely pass the project's high-risk OSOM.
   j. Swept paths are required for all pinch points along the State Road network identified in the route assessment.
   k. Strategic concept designs all pinch points on the State Road network that require modifications or widening.

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l. The Hexham Straight is a notable project impacting Route 2. The route assessment must assess the alternative route via Newcastle Inner City Bypass to Newcastle Road for high-risk OSOM loads that do not exceed the vertical clearance limitations of 5.25m.
m. Where the EnergyCo P2R road upgrades are relied on to facilitate the project's high-risk OSOM movements, the pavement extents, scope of work, and bridge assessments for the P2R project are to be reviewed and assessed concerning the project's proposed high-risk OSOM vehicle configuration and loads, to confirm that the loads will be able to move within the design envelope that this project will deliver. Evidence of the consistency check with the EnergyCo P2R project is to form part of the high-risk route assessment. It is the responsibility of the project to include any further road upgrades if the high-risk OSOM cannot be delivered within the design envelope for the Port to REZ project.

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