

11 January 2024

TfNSW reference: WST20/00362/03 | SF2020/184623

Your reference: SSD-8950984

Energy Assessments
Department of Planning, Industry & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Natasha Homesy

SSD-8950984: Response to the EIS Exhibition for the Burrendong Wind Farm

Dear Natasha,

Transport for NSW (TfNSW) is responding to the EIS Exhibition for Burrendong Wind Farm SSD-8950984 the referred on 14 of November 2023.

TfNSW has reviewed the information and is unable to properly assess possible impacts on the state transport network and its users. Details of **additional required information** are set out in **Attachment 1** and **Attachment 2**.

On request, TfNSW can participate in a meeting with Council and the Applicant to further discuss the information in **Attachment 1** and **Attachment 2** for comments provided by TfNSW Rail section in relation to the Country Rail Network (UGLR).

If you have any questions, please contact Alexandra Power on 1300 019 680 or email development.west@transport.nsw.gov.au.

Yours faithfully,

A handwritten signature in black ink, appearing to read "Alexandra Power".

Alexandra Power

Team Leader Development Services (West)-Renewable Resources
Community & Place
Regional and Outer Metropolitan

OFFICIAL

SSD-8950984: Response to the EIS Exhibition for the Burrendong Wind Farm

This attachment relates to TfNSW's response dated 11 January 2024 reference WST20/00362/03 | SF2020/184623.

Context

- Burrendong Wind Farm will commence construction in late 2025,
- Will utilise the Port of Newcastle for deliveries and will likely access the site for High Risk OSOM via Route 2A- Golden Highway/Saxa Road/Mitchell Highway/Goolma/Twelve Mile Road and then Yarrabin Road or via Route 2B Golden Highway/Castlereagh Highway/Goolma Road/Twelve Mile Road (approached from the east) onto Yarrabin Road and Burrendong Dam.
- Cumulatively the Maryvale Solar Farm, Ungula Wind Farm, Wellington South BESS, Orana BESS will likely be coinciding and will have implications to the background traffic volumes at the intersections of Mitchell Highway/Goolma Road, impact the background traffic volumes of Goolma Road and Goolma/Twelve Mile Road as well as the eastern approach to Goolma/Twelve Mile Road via Goolma Road and the Castlereagh Highway.
- At the peak of construction, the workforce is anticipated to be 375 FTE equating to 250 light vehicles a day with only 125 light vehicles and 11 heavy vehicles occurring during the peak hour. 54% of the workforce will originate from Mudgee and will utilise the Castlereagh/Hill End Road intersection.

OSOM Route (High Risk Heavy Vehicles Requiring Escort)

1. The reference to the blade length adopted for the project is inconsistent between EIS, Route Assessment and TIA. Clarify the accurate dimensions for the design OSOM (High Risk HVRE).
2. The Traffic Impact Assessment prepared by Stantec refers to Appendix A RJA Route Assessment, however, the RJA Route Assessment does not appear to form part of the suite of EIS Exhibition material. The icubed Route Assessment 2020 does form part of the EIS Exhibition material, however, focuses on Twelve Mile, Yarrabin and Hill End Road and not on the entirety of the route and is outdated. The RJA Route Assessment should be provided as part of the RTS supported by strategic designs for the pinch points.
3. It should be noted that the Port to REZ project being undertaken by EnergyCO for the common route to the Golden Highway have incorporated an 85m blade as the design component dimensions. The design parameters for the Port to REZ project should be reviewed to understand if there is any opportunity to leverage the work completed for the Port to REZ OSOM upgrades for the common route can be leveraged for this project. The Port to REZ OSOM upgrades to be completed by 2025 for the common route to the Golden Highway.

4. It is noted that in the TIA there is an expectation to utilise the OSOM road infrastructure upgrades being completed by Squadron Energy for the 82m blade for the Burrendong Wind Farm project. Five points to note regarding this approach:
 - a) The upgrades have not yet commenced for Uungula Wind Farm for the entirety of the route from Port of Newcastle to Twelve Mile Road.
 - b) The intersection of Goolma Road/Twelve Mile Road are currently subject to a WAD and will likely be completed in 2024. The design of this intersection has been based on the configuration for the 82m blade length and not the proposed blade length subject to this application of 90m). Further upgrades may be required to be able to achieve the turning movements required for the design OSOM subject to this application at this intersection.
 - c) All pinch points that have been reviewed as a part of the Uungula Wind Farm development consent and Traffic Management Plan have been assessed for an 82m blade length and not the blade length proposed as a part of the Burrendong Wind Farm application. Therefore, it is unlikely that the upgrades undertaken for Uungula Wind Farm will be suitable for Burrendong Wind Farm. The OSOM route and pinch points should be reviewed, and strategic designs provided as a part of the RTS response, to ensure that the EIS and development consent captures the required scope of works for the OSOM upgrades.
 - d) The upgrades will only occur along the shared route identified within the TIA and Route Assessment as Route 2A (to the point of the Goolma Road/Twelve Mile Road intersection).
 - e) The route identifies as route 2B will not be used or upgraded by Uungula Wind Farm and therefore would not benefit from any of the upgrades required for OSOM subject to the Uungula Wind Farm. The pinch points, culverts and bridges should be reviewed for the high risk OSOM that will be required to utilise this route and strategic designs must be prepared for the road infrastructure upgrades required for Route 2B and will be required to accompany the RTS submission.
5. Assessment of the impacts of the TfNSW Projects due to the OSOM movements proposed as a part of this project for the identified OSOM route(s) as the Route Study prepared by RJA Route Survey does not appear to have sufficiently addressed the impacts to the TfNSW Projects or the impacts to the proposed OSOM route. The RJA Route Study is required to be revised to address how the OSOM loads could traverse the TfNSW projects along the OSOM route, civil works required to facilitate the laden loads through the TfNSW projects and evidence of consultation with the TfNSW project managers to ensure that access can be provided for the OSOM movements through the TfNSW projects.

Transport for NSW

TfNSW Project	Project's Website:	Other relevant Weblink/s:
Hexham Straight Widening Project (HSW)	Project Website link here	
M1 to Raymond Terrace Project (M12RT)	Project Website link here	Project's interactive portal link here
Belford to Golden Highway Project (B2GH)	Project Website link here	Project's overview diagram link here
Rankin Park to Jesmond-Newcastle Inner City Bypass	Project Website link here	
Mudies Creek Bridge Upgrade (flood immunity project - new 30 metre long bridge).	Project Website link here	

Note: In relation to the route from Port of Newcastle alternative routes must be considered for OSOM (heavy vehicles requiring escort) to limit the OSOM movements through the Hexham Straight project.

General requirements for the Route Assessment

Schedule of timing of the high risk OSOM movements

6. Provide indicative timing for the first OSOM movements, the indicative daily schedule including the return vehicle schedule (and widths of the return vehicle).

Pullover and rest areas

7. The pull over, rest area and emergency breakdowns locations along the OSOM route(s) need to be reviewed regarding the suitability and viability to accommodate all High Risk OSOM loads dimensions (length, height, width) of the rest area and approaches.
8. The Route Survey must be revised to ensure that the pull over and rest area locations for the largest OSOM components are not located at locations that will have conflicts with vulnerable road users.
9. Ownership of the rest areas, pull over and layby locations identified should be reviewed to ensure landowners consent is provided to permit the use of the rest areas/pull over locations for the delivery of the OSOM movements associated with the project.

Weight of the heaviest vehicle requiring escort

10. The RJA Route Study does not identify the vehicle combination and laden dimensions for the transformers to be delivered to the development. The weights of the transformers and vehicle configuration must be provided as a part of the Route Assessment and the weight and vehicle configuration of the transformer is required to be used to inform the bridge assessments.

Bridge assessments

11. The RJA Route Study does not include bridge assessments for the largest OSOM vehicles for all bridge assets along the OSOM route, in particular Ironbark Bridge, culverts, and bridges on Castlereagh Highway

Bengalla and Wybong Road

12. Bengalla and Wybong Road are identified as local roads and will be required to be used for the loads that exceed the bridge tolerances for Denman Bridge and therefore the following matters are required to be addressed regarding this route within the RJA Route Study:
 - a) Provide the detailed scope of work required for Bengalla and Wybong Road to facilitate the OSOM movements, inclusive of the intersections with the classified road network.
 - b) Provide swept paths of the largest OSOM components completing the detour via Bengalla and Wybong Road, including the manoeuvring through the intersections with the classified road network.
 - c) Road works are in progress with further work planned along Bengalla Road. Further information is required to understand the impacts or impediments the road works along Bengalla Road will have on the OSOM movements for the Burrendong Wind Farm.

Light and heavy vehicle traffic volumes during construction

The proposed development identifies the following intersections with the classified road that will be required for the light and heavy vehicle construction routes. The additional information has been set out in relation to the additional information required in relation to each intersection:

Twelve Mile Road/Goolma Road intersection

13. Twelve Mile Road/Goolma Road-100km/hr speed zone currently subject to a WAD which was required as a part of the Ungula Wind Farm approval the nature of the work is to realign Goolma Road and Twelve Mile Road and provide a CHR(s) and an AUL. Squadron Energy will be undertaking this road upgrade during 2024. The key aspects and additional information required for this intersection have been identified below:

- a) The cumulative traffic volumes including the through and turning traffic volumes associated with the other nearby projects, existing background traffic (plus growth rate) volumes and the project traffic volumes should be reassessed as a part of the RtS, in relation to the LoS and Turn Warrant Assessment for Goolma/Twelve Mile Road. It is noted that the geometry of the realigned intersection prohibits the provision of a full-length CHR.
- b) However, measures should be proposed to ensure that the traffic volumes are mitigated to comply with the proposed intersection treatments such as ensuring traffic is occurring in intervals, how the construction traffic will occur outside of the AM/PM project peaks and increasing the carpooling and providing shuttle buses to reduce the overall traffic volumes.
- c) The light, heavy vehicles, High Risk OSOM and general OSOM cannot utilise the existing intersection of Goolma/Twelve Mile Road and will have to wait until the completion of the realignment of Goolma/Twelve Mile Road that is currently being undertaken by Squadron for Ungula Wind Farm.
- d) The intersection should be reviewed for the vehicle configuration for the High Risk OSOM design vehicle as the intersection has been designed for an 80.4m blade with overall laden load length of 91.86m.

Burrendong Way/Mitchell Highway

14. Mitchell Highway/Burrendong Way- 100km/hr- existing four-way intersection consisting of an AUL southbound and a BAL for the northbound opposing intersection. 10% of traffic all turning left into the intersection via the existing intersection treatment. Swept paths (based on the HV design vehicle) should be provided to ensure that the existing treatments are sufficient to allow for passing and through traffic movements for the Mitchell Highway/Burrendong Way intersection and the Mitchell Highway/Spillsbury Lane intersection.

Mitchell Highway/Goolma Road

15. Mitchell Highway/Goolma Road- existing CHR(s) and BAL 50km/hr.
- a) The LoS and turn warrant assessment is required to form part of the RTS response and be based on the cumulative traffic volumes, background traffic volumes (plus growth) and project traffic volumes at this intersection. This is important as most of the construction traffic volumes associated with surrounding projects with a coinciding timeframe will occur between 6-7am and 5-6pm as per the defined construction hours.
 - b) Based on this review of the LoS and turn warrants assessment measures should be proposed as a part of the RTS to ensure that the traffic volumes are mitigated to comply with the existing treatments.
 - c) Alternatively, road infrastructure upgrades may be required for this intersection if traffic mitigation measures cannot be implemented. In this event Strategic designs will be required as a part of the RTS.
 - d) Swept paths should be provided for the High Risk OSOM based on the vehicle configuration and load and any road upgrades required because of the High Risk OSOM review at this intersection should form part of the RTS response.

General additional information required in relation to the TIA prepared by Stantec for Burrendong Wind Farm

- 16. The traffic assumptions do not appear to be supported by a traffic count survey. Further information is required in the form of the tube counts or data source for the traffic count assumptions for background traffic volumes identified within the TIA prepared by Stantec. As the Goolma Road traffic volumes do not appear to reflect recent traffic count surveys cited in other developments.
- 17. The AM/PM peak hour for the network peak have not been defined with the TIA prepared by Stantec. It is noted that the AM/PM peak for Goolma Road is closely aligned with the construction hours set for each Major Project of 6-7am and 5-6pm. The background AM/PM peak should be defined for each intersection requiring reassessment as a part of this RTS response.
- 18. It is noted that month 9-10 require 375 employees and even based on a carpooling rate of 2 persons per a vehicle this would equate to 187.5 light vehicles as opposed to the assumption of 125 light vehicles which is based on the average and not the maximum traffic generation. The TIA should be revised where references are made to the 125 light vehicle volumes to the actual maximum light vehicles that will occur during the peak of construction month 9-10 based on a 2 person per a vehicle calculation.
- 19. Ensure that the heavy vehicle calculations have captured other OSOM that can travel under the class 1 exemptions and that are not categorised as high risk.
- 20. There is a reference to reducing speed limits on some roads (s6.5.3 Vehicle Access-signage). Reducing speed limits on the state classified road network is not supported for developments, inclusive of renewable projects.

21. Include the growth rates to the year of peak of construction within the background traffic volume assumptions 1% for Castlereagh Highway and 1.5% for Goolma Road.

SSD-8950984 Burrendong Wind Farm Environmental Impact Statement review - CST Comments and requirements related to CRN corridor

TfNSW is the rail authority of the Country Regional Network (CRN) across NSW and the Transport Asset Holding Entity (TAHE) is a State – owned corporation that holds rail property assets and rail infrastructure, including the CRN. As of 29 January 2022, UGL Regional Linx (UGLRL) has been appointed by TfNSW to operate and manage the CRN to ensure any potential impacts to rail corridors are considered and addressed.

Construction vehicle and Over-Size Over-Mass (OSOM) vehicle routes

UGLRL has reviewed the *Environmental Impact Statement* (EIS), Appendix I – *Traffic and Transport Impact Assessment* (TTIA), and Appendix J – *External Route Study*. The review found that proposed heavy vehicle and Over-Size Over-Mass (OSOM) route will be crossing the operational and non-operational rail corridors at several locations.

The TTIA does provide information and locations of a number of level crossing managed and operated by ARTC. In addition, TTIA also provide information for the railway level crossing located at Saxa Road, Montefiores, which is managed by UGLRL.

It should be noted that the proposed Heavy Vehicle and OSOM routes are crossing operational and non-operational railway corridor on CRN on seven (7) locations. These locations with aerial imagery are provided below from Figures 1 to 7.



Figure 1: Goolma Rd crossing non-operational rail corridor from Gulgong-Combo at Goolma NSW



Figure 2: Goolma Rd near Budgalong Rd crossing non-operational rail corridor from Gulgong-Combo at



Spicer's Creek

Figure 3: Goolma Rd Crossing Operational rail Corridor from Orange Jct to Dubbo located at Montefiores NSW

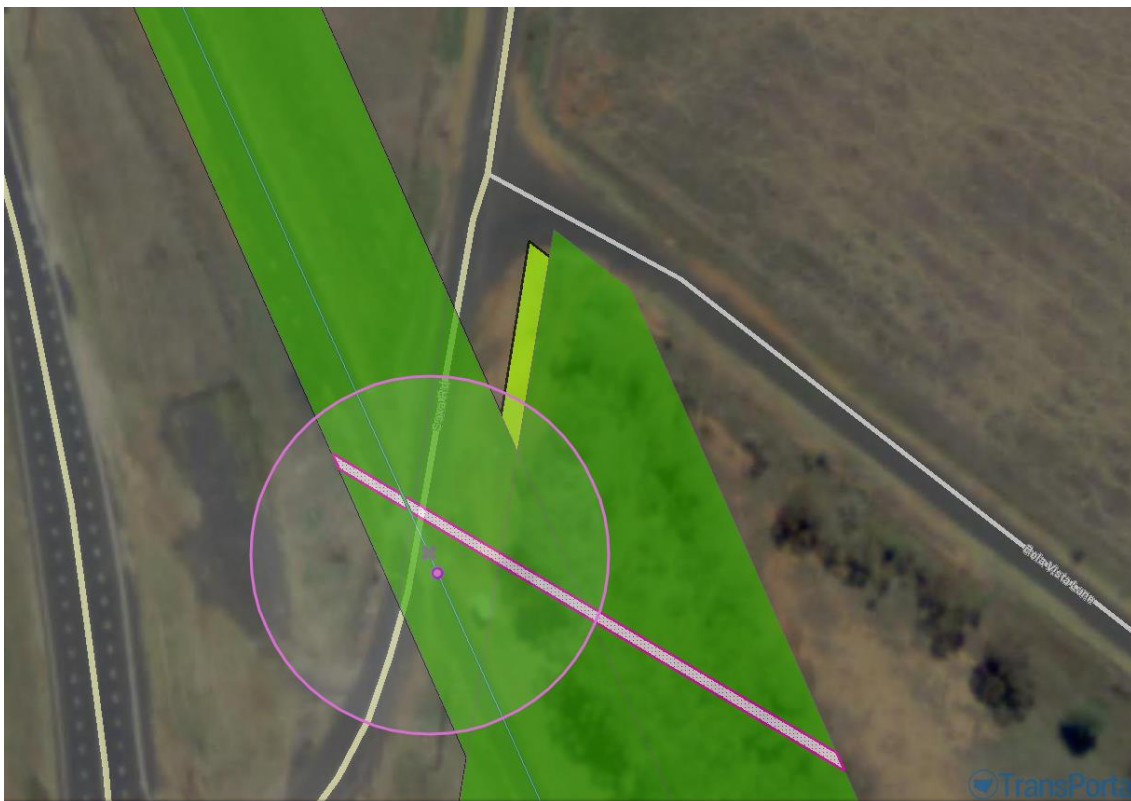


Figure 4: Saxa Rd crossing operational rail corridor from Orange Jct to Dubbo located at Montefiores



Figure 5: Saxa Rd Crossing non-operational rail corridor from Gulgong-Combo located at Maryvale



Figure 6: Castlereagh Hwy crossing non-operational rail corridor from Gulgong-Combo located at Gulgong



Figure 7: Golden Highway and Maitland Gungal St level crossing non-operational Sandy Hollow to Merriwa

at Gungahlin

The applicant must be aware of all crossings on CRN rail corridors located along the transport routes associated to the proposed development. Therefore, it is advised to include information on identified crossings on operational and non-operational CRN rail corridors in the EIS documents. In addition, if any adverse impacts to CRN corridor are identified in the EIS documents, the applicant shall seek approvals from UGLRL. Please also note that the applicant must adhere to the transport management and safety requirements of UGLRL and TfNSW for the matters involving CRN corridor.