Dubbo Firming Power Station

EIS Submissions Report

8 November 2023

SQUADRON ENERGY

EXECUTIVE SUMMARY

Dubbo Firming Nominees Pty Ltd (**Proponent**) proposes to develop a firming power station in Dubbo, NSW (**Project**).

The Project is subject to assessment under the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) and the Minister for Planning is the consent authority. The Project, as an energy generating facility, satisfies the criteria for State Significant Development under Division 4.7 of the EP&A Act and section 2.6(1) and paragraph 20(a) of Schedule 1 of the State Environmental Planning Policy (Planning Systems) 2021 (**Planning Systems SEPP**).

The Proponent prepared an environmental impact statement (**EIS**) to assess the potential impacts of the Project. The Department of Planning and Environment (**DPE**) placed the EIS on public exhibition from 9 August 2023 to 5 September 2023.

During the exhibition period, a total of 12 submissions were received for the Project. Of the 12 submissions, 11 were from the community and one from an organisation. No form letters or petitions were received. A letter was also provided from Dubbo Regional Council.

Agency advice was also received from the following government agencies:

- Transport for NSW (**TfNSW**)
- NSW Environment Protection Authority (**EPA**)
- Office of Energy and Climate Change (**OECC**)
- Department of Planning and Environment – Hazards (**Hazards**)
- Department of Planning and Environment - Biodiversity, Conservation and Science (**BSC**)
- Heritage NSW
- Civil Aviation Safety Authority (**CASA**)
- NSW Rural Fire Service (**RFS**)

This submissions report has been prepared in accordance with the State Significant Development Guidelines including Appendix C - Preparing a Submissions Report and will be available on the DPE's Major Project website - https://www.planningportal.nsw.gov.au/major-projects/projects/dubbo-firming-power-station.

DPE will undertake an assessment of the Project and make a recommendation to the Minister as to whether the Project should be approved (subject to conditions) or not approved.

If approved, the Proponent will continue to engage with the community, government agencies and other stakeholders during the detailed design and construction phases of the Project.

1 INTRODUCTION

Dubbo Firming Nominees Pty Ltd (**Proponent**) proposes to develop a firming power station in Dubbo, NSW. The Project will operate as a “firming” generation facility supplying electricity at short notice and will firm up supply when the sun is not shining, and the wind is not blowing to guarantee that energy supply can be maintained irrespective of weather conditions. The power station will be capable of operating on biofuel and natural gas with hydrogen blends in the short to medium term with a view to transitioning to 100% hydrogen and biofuel systems.

The key aspects of the Project include:

- a new power generation facility with a nominal capacity of about 64MW comprising dual fuel turbine generator(s) capable of operating with gas/hydrogen blends or biofuels and all associated facilities
- a hydrogen generation facility with a nominal capacity of up to 20MW, along with hydrogen compression, storage, handling and blending facilities
- a new high pressure gas pipeline connection between the Project site and the boundary of the Central West Pipeline (CWPL) Dubbo Scraper Station (located to the south of the Project site)
- a new high pressure gas pipeline located within the Project site to be used for balancing storage and supplying feedstock during periods of operation; and
- a new 66kV electricity transmission line connection from the Project site to the boundary of the existing 66kV Yarrandale Substation on the opposite side of Yarrandale Road.

An environmental impact statement (EIS) was prepared to assess the potential impacts of the Project, and to identify the management measures to address those impacts. The EIS was exhibited by the Department of Planning and Environment from 9 August 2023 to 5 September 2023.

On 8 September 2023, the Planning Secretary requested the Proponent submit a response to the issues raised in submissions to the EIS. This submissions report identifies and responds to the issues raised during the public exhibition of the EIS.

2 ANALYSIS OF SUBMISSIONS

2.1 Overview

During the exhibition period, a total of 12 submissions were received for the Project. Of the 12 submissions, 11 were from the community and one from an organisation. No form letters or petitions were received. A letter was received from Dubbo Regional Council. Agency advice was also received from the following government agencies:

- Transport for NSW (**TfNSW**)
- NSW Environment Protection Authority (**EPA**)
- Office of Energy and Climate Change (**OECC**)
- Department of Planning and Environment – Hazards (**Hazards**)
- Department of Planning and Environment - Biodiversity, Conservation and Science (**BSC**)
- Heritage NSW
- Civil Aviation Safety Authority (**CASA**)
- NSW Rural Fire Service (**RFS**)

No submissions were received from Commonwealth agencies.

2.2 Community Submissions

Of the 12 submissions:

- 11 individual submissions were received including:
    - seven submissions in substantially the same form as each other received from Gollan, 44 kilometres from the Project site;
    - four submissions received from the broader community from locations within 135 – 410 kilometres from the Project site;
    - no individual submissions received from the Dubbo locality; and
- 1 submission was received from an organisation, Sydney Knitting Nannas.

A map setting out the location from where the submissions were received by area is in Figure 1 below.

Each submission has been examined individually to determine issues raised and then summarised and grouped according to key issue and sub-issue categories.

A response to these issues is provided in section 4.1 of this report. Where relevant, input to the responses was sought from the technical specialists who assisted with the preparation of the EIS.

A submissions register is provided in Appendix A - Submissions Register of this report. Each submission has been allocated a submission number and the register identifies where the issue raised in the submission has been addressed.

2.3 Agency and Council Submissions

Each government agency and council submission has been reviewed and the issues raised are responded to in section 4.2 of this report.

Figure 1 – Location from where submissions derived

2.4 Summary of Issues Raised

Submission ID No.	Name	Category of Issue	Section where issues addressed in submissions report
COMMUNITY SUBMISSIONS			
SE-62015208	Anonymous (Lake Albert)	Project need	4.1.2
SE-61933708	Anonymous (Gollan)	Fire risk of batteries	4.1.1
SE-61923488	Anonymous (Gollan)	Fire risk and toxicity of batteries	4.1.1
SE-61923480	Anonymous (Gollan)	Project need	4.1.2
SE-61923484	Anonymous (Gollan)	Use of valuable farmland	4.1.4
SE-61932463	Anonymous (Gollan)	Toxicity of materials used in batteries/fire risk of batteries	4.1.1
SE-61932959	Anonymous (Gollan)	Fire risk	4.1.5
SE-61932461	Anonymous (Gollan)	Sources of batteries materials/modern slavery concerns	4.1.1
SE-61916709	Ian McDonald (Walcha)	Project need	4.1.2
SE-61632984	Anonymous (Coolah)	Project need	4.1.2
SE-61439215	Anonymous (Waverton)	Attachment to submission was not provided.	Not applicable
SE-61962978	Sydney Knitting Nannas (Marrickville)	Anti-gas Seeking battery firming Timeframes for transition to renewable energy	4.1.1, 4.1.3
GOVERNMENT AGENCY/COUNCIL			
	EPA	Energy to Waste Air Quality Greenhouse Gas Assessment Water Quality Noise	4.2.7
	Office of Energy and Climate Change	Project alignment to NSW's net zero emissions by 2050	4.2.2
	DPE – Hazards	Technical matter	4.2.3
	DPE – Biodiversity, Conservation and Science	No issues to be addressed.	Not applicable
	Heritage NSW	Procedural matter	4.2.5

Submission ID No.	Name	Category of Issue	Section where issues addressed in submissions report
	Dubbo Regional Council	Infrastructure (Roads, Services/Powerlines, Stormwater) Hazards Planning Agreement	4.2.1
	Civil Aviation Safety Authority	Plume Rise	4.2.8
	Rural Fire Service (NSW)	Preparation of Emergency Management and Evacuation Plan Asset Protection Zones Construction Standards Internal Roads Water and Utility Services	4.2.9

3 ACTIONS TAKEN SINCE EXHIBITION

	Action	Reference
	• An amended version of the executive summary of the EIS is attached to this response to submissions which is marked up to show the removal of the reference to 'Aboriginal places' and insertion of the words 'Aboriginal archaeological sites or areas containing Aboriginal objects' • Figure 9 of the ACHAR has been amended • Evidence of assessment methodology and draft ACHAR being sent to all Registered Aboriginal Parties has been included in an appendix to the ACHAR • Updated ACHAR included with this Submissions Report	Heritage NSW Advice
	• Email sent on 15 September 2023 to NSW EPA in respect of Energy from Waste item • Meeting with DPE & NSW EPA on 16 October 2023 in respect of Energy from Waste item • Email sent on 19 October 2023 to NSW EPA in respect of Energy from Waste item with proposed response and amendments made to proposed wording following feedback from NSW EPA • Updated Air Quality and Noise Impact Assessments included with this Submissions Report	NSW EPA Advice
	• Meeting with DPE & TfNSW on 28 September 2023 in respect to advice received • Updated Transport Assessment included with this Submissions Report	TfNSW Advice
	• Phone call with CASA on 13 October 2023 with CASA in respect to submission received. • Updated Plume Rise Assessment Application and further information submitted to CASA on 17 October 2023 • Phone call with Dubbo Regional Council Airport on 10 October and 19 October 2023 in respect to advice received • Further information communicated to Dubbo Regional Council Airport on 19 October 2023	CASA Advice
	• Engaged with Dubbo Regional Council in relation to a Voluntary Planning Agreement (**VPA**) or similar	Dubbo Council Comments

4 RESPONSE TO SUBMISSIONS

4.1 Community Submissions

4.1.1 Issue: Not in favour of battery projects and the perceived increased fire risk associated with batteries

Submission Identification Number	SE-61933708, SE-61923488, SE-61932463, SE-61932461
Response	The Project is not a battery project. The issues raised in these submissions are not relevant to the Project or its EIS and are beyond the scope of the Project.

4.1.2 Issue: Project need

Submission Identification Number	SE-62015208, SE-61916709, SE-61632984
Response	Reference is made to Chapter 3 (Strategic Context) and Chapter 17 (Evaluation of Costs and Benefits) of the EIS. As a source of dispatchable generation, the Project supports electricity reliability as other electricity generation capacity such as coal fire generators are removed from the energy system. The Project aligns with, and supports the policy objectives of, the NSW Electricity Infrastructure Roadmap and the NSW Hydrogen Strategy.

4.1.3 Issue: Use of gas as fuel source

Submission Identification Number	SE-61962978
Response	The use of hydrogen and/or biofuels as the predominant fuel sources for power generation remain in their infancy and at the time of preparation of the EIS are not commercially favourable to deliver sustainable competitive electricity prices in comparison to natural gas or a natural gas/hydrogen blend. The ability to source sufficient quantities of both hydrogen and biofuels (as eligible waste fuels) to generate power without blending with natural gas from both a scale and cost perspective remains uncertain. The Proponent has sought to maintain optionality as to fuel sources and quantities to ensure that the Project can be flexible as the future of renewable fuels becomes clearer, the industry develops and there is advancement in power generation technology to be 100% hydrogen capable.

4.1.4 Issue: Use of agricultural land

Submission Identification Number	SE-61923484
Response	The Project site is located on land zoned as Heavy Industrial (E5) under the Dubbo Local Environment Plan and the proposed Project is consistent with the land use for this zoning. The Project meets the objectives and land uses for a Heavy Industry Zone: - To provide areas for industries that need to be separated from other land uses. - To ensure the efficient and viable use of land for industrial uses. - To minimise any adverse effect of heavy industry on other land uses. - To encourage employment opportunities.

4.1.5 Issue: Increased fire risk

Submission Identification Number	SE-61932959
Response	A Bushfire Risk assessment was undertaken as part of the EIS and the assessment concluded that the Project would comply with the aims and objectives of the *Planning for Bush Fire Protection* (NSWRFS 2019) with certain limited controls being implemented (please refer to Section 9.4 of Chapter 9 (Hazards and Risk) and Appendix G (Bushfire Risk Assessment, Bushfire Consulting Services, February 2023) of the EIS.

4.2 Agency/Council Advice and Submissions

4.2.1 Dubbo Regional Council

Issue	**Response**
The requirement for easements for the powerline between the site and the Yarrandale substation	Essential Energy as the Network Service Provider will be responsible for the connection to the Project site and will obtain easements across Yarrandale Road in accordance with Part 5, Division 5.1 of the EP&A Act.
Conditions to be considered in relation to subsequent approval for roads and stormwater	The Proponent acknowledges that: • Dilapidation surveys will need to be undertaken and agreed with Dubbo Regional Council (DRC) as to the current condition of all affected roads prior to the commencement of works; • A commitment to the maintenance of affected roads both during and post construction works, for damage deemed to be caused by the additional traffic;

Issue	Response
	• Prior to issue of a relevant Construction Certificate, a separate 'Road Opening Application' (Section 138 Application under the Roads Act 1993) will be required to be made to Council's Infrastructure Division, plus payment of appropriate fee(s); • Repairing and returning affected roads to pre-works condition at the completion of the construction and commissioning phases of the project and/or provide a payment to DRC an agreed apportionment of maintenance costs for affected roads during pre-construction, construction and commissioning activities; and • prior to any construction works commencing, full and detailed hydraulic design calculations and drawings of the proposed development's stormwater drainage system shall be submitted to and approved by Council
The generation, storage and disposal of oxygen gas from the proposed hydrogen electrolysis process	Oxygen gas generated from the hydrogen electrolysis plant will be released into the atmosphere. It is not proposed to store any oxygen gas and the oxygen gas will be vented away from any combustible materials. As oxygen gas is not a pollutant, the release of this gas does not impact air quality and it does not need to be addressed in any impact assessment for the Project.
Status of a planning agreement between the Proponent and Dubbo Regional Council	The Proponent is in discussions with the Dubbo Regional Council with respect to a planning agreement or similar in relation to the Project.
Potential scarcity of workers and associated infrastructure such as accommodation	The Proponent has been and will continue to work with the Dubbo Regional Council with respect to workforce accommodation and employment for the Project.

4.2.2 Office of Energy and Climate Change (NSW)

Issue	Response
Requested further information on how the Project will support the Net Zero priority 1 and 3	**Priority 1 – Deploy opportunities to reduce industrial emissions** The Project has been designed to transition from using natural gas in the short to medium term to other fuel sources such as eligible waste fuels and hydrogen as the technology continues to evolve with a view to reduce emissions. **Priority 3 – Develop low carbon infrastructure and industrial precincts**

Issue	Response
	The Proponent has been working with Dubbo Regional Council with respect to its business case for the development of the Central West Orana REZ Green Energy Hub in the industrial precinct in which the Project will be situated.
Information on how long the power station can operate using the fuel stored within its proposed 2.5 km pipeline	The proposed 2.5-kilometre pipeline will store natural gas (or natural gas/hydrogen blends) to enable 12 hours operation of the power station.

4.2.3 DPE Hazards

Issue	Response
Requested the Proponent to clarify that the chosen power generation package would be capable of complying with the requirements under Australian Standard 1375 Industrial fuel-fired appliances and Australian Standard 3814 Industrial and commercial gas-fired appliances (AS 1375 and AS 3814), thus obtaining the relevant certifications for Type B gas appliances.	The chosen power generation package will comply with *Australian Standard 3814 Industrial and commercial gas-fired appliances* and the *Gas Safety Act 1997.* A certification for Type B gas appliances will be provided for commissioning of the package.

4.2.4 DPE- Biodiversity Conservation & Science Division (BCS)

Advice from BSC raised no issues with respect to the EIS or the Biodiversity Development Assessment Report appended to the EIS (EIS Appendix B).

4.2.5 Heritage NSW

The Aboriginal Cultural Heritage Assessment Report (**ACHAR**) has been updated following advice from TfNSW (see Attachment B) as follows:

Issue	Response
The executive summary of the EIS be amended to remove the references to 'Aboriginal places' and to insert 'Aboriginal archaeological sites or areas containing Aboriginal objects'	Attached to the Submission Report (Attachment A) is a marked up version of the executive summary removing the reference to Aboriginal places.
Evidence of the provision of assessment methodology and draft Aboriginal Cultural Heritage Assessment Report (**ACHAR**) to all Registered Aboriginal Parties	Evidence of the provision of the assessment methodology and draft ACHAR has been included as an appendix (Appendix 3) to the ACHAR.
Survey track logs be included in Figure 9 of the ACHAR	Figure 9 of the ACHAR has been updated with track logs
The location of site 36-1-0298 on Figure 10 be checked as not consistent with the AHIMS register and amended if required.	The discrepancy between the grid references of the site 36-1-0288 in Figure 10 is that those on the AHIMS register are incorrect. Landskape, the Project's Cultural Heritage advisor will inform the registrar of this error and text has been included in the ACHAR to reflect this.

4.2.6 Transport for NSW

The Transport Impact Assessment has been updated following advice from TfNSW (see Attachment C) as follows:

Issue	Response
Further information requested for use of shuttlebuses through construction.	The TIA has been updated to remove the use of shuttle buses and individual movements only (with no further impact as previously assessed with shuttle buses). It is noted that shuttle buses may be adopted during construction and carpooling will be encouraged. Details of any shuttle bus operation would be detailed within the future Construction Traffic Management Plan which is to be prepared as one of the mitigation measures recommended in the Traffic Impact Assessment (Appendix K).
A swept path analysis of the Golden Highway/Yarrandale Road roundabout intersection needs to be provided to demonstrate that OSOM vehicles can successfully make the turning manoeuvre. A swept path analysis of the Purvis Lane/Newell Highway intersection will also need to be provided if heavy and OSOM vehicles will be using this intersection.	A swept path assessment has been provided in the updated TIA at Appendix D of the TIA.
Details on the number, vehicle size and laden loads of oversize overmass vehicles (OSOM) need to be identified and any pinch points or restrictions along the route.	Details of the relevant OSOM vehicles and an assessment of the access routes is provided in section 3.3 of the updated TIA. The assessment indicates no civil works are required as part of the transportation of larger plant to the site.
Traffic volume counts and SIDRA analysis of the Purvis Lane/Newell Highway intersection for the AM and PM peaks to be provided	TfNSW agreed at a meeting on 28 September 2023 that no further traffic counts or analysis of this intersection are required as this is not the primary access route and the intersection would experience a low increase in traffic. The intersection is already provided with a channelised right turn and auxiliary left turn treatment to facilitate turn movements. SIDRA files are attached as Attachment C.1 to this Submission Report.
The traffic generation during the peak of development relies on the use of shuttle buses to reduce the traffic volumes associated with the development in the AM/PM peaks. No information has been provided within the TIA to demonstrate how the shuttle bus commitment will be achieved.	The TIA has been updated to remove the use of shuttle buses and individual movements only (with no further impact as previously assessed with shuttle buses). It is noted that shuttle buses may be adopted during construction and carpooling will be encouraged. Details of any shuttle bus operation would be detailed within the future CTMP.

Issue	Response
Address the interactions and impacts associated with the traffic generated by the proposed development during the AM/PM peak of construction and any surrounding developments that are likely to have coinciding AM/PM peaks in particular on Purvis Lane and Yarrandale Road.	TfNSW agreed at a meeting with DPE on 28 September 2023 that no analysis of this intersection is required. Section 4.4 of the TIA addresses the cumulative impact of traffic associated with other projects in the area.
Heavy vehicles to be mandated to use Purvis Lane instead of Boothenba Road. These can be documented in the Construction Traffic Management Plan (CTMP)	Noted and no further comments from the Proponent.

4.2.7 NSW EPA

Waste and Resource Recovery

Issue	Response
Further information to demonstrate whether the proposal satisfies the regulatory requirements in relation to Chapter 9 Part 4 Energy recovery from thermal treatment of waste) of the Protection of the Environment Operations (General) Regulation 2022 in relation to the use of Bioethanol (E100) and Biodiesel (B100 & HVO100)	The Proponent acknowledges that the *Protection of the Environment Operations (General) Amendment (Thermal Energy from Waste) Regulation* 2022 (**EfW Regulation**) prohibits the thermal treatment of waste if it involves or results in energy recovery from the waste and one or more activities at the premises requires an environment protection licence. The Proponent also acknowledges that the EfW Regulation does not apply to eligible waste fuels as eligible waste fuels are not defined as "waste" in the EfW Regulation. The Proponent recognises that Dubbo is not one of the Energy from Waste Priority Infrastructure Areas identified in the NSW Energy to Waste Infrastructure Plan. It does not propose to thermally treat waste or waste derived materials that are not fuels that meet the following criteria set out in Part 1 of the EPA's Eligible Waste Fuel Guidelines, NSW EPA June 2022 (**Waste Fuel Guidelines**): 1. Be able to demonstrate to the EPA that the proposed waste consistently meets the definition of an EPA-approved eligible waste fuel 2. Ensure there are no practical, higher order reuse opportunities for the waste 3. Fully characterise the waste and/or undertake proof of performance (where required); and 4. Meet the relevant emission standards as set out in the Clean Air Regulation. The Proponent acknowledges that it must demonstrate that any biofuel proposed to be used at the Project must meet these criteria. And if eligible waste fuels were proposed to be

Issue	Response
	used, these eligible waste fuels would first need to be approved and listed in the *NSW Energy from Waste Policy Statement* and if listed, the Proponent would also need to obtain a resource recovery order and exemption from the EPA. By way of clarification, any reference to biofuels, liquid fuels, biodiesel or bioethanol in the Project's EIS should be read to be a reference to eligible waste fuels. Any fuel which does not satisfy these criteria will not be used at the Project. Examples given of the types of biofuel feedstock in section 3.3.3 of the EIS are given only by way of example and it is recognised that fuels produced using these feedstocks may not be capable of use at the Project as any biofuel source must meet the relevant criteria. When considering the impacts to air quality, the Proponent has modelled both the most conservative worst case scenario and the best case scenario with respect to the use of gas, hydrogen and biofuels at the Project. The worst case scenario arises from the use of biodiesel. The best-case scenario is the use of natural gas. These two scenarios represent the respective book ends when considering impacts to air quality.
Acknowledge that a resource recovery order and exemption is required to be obtained prior to any reuse of wastes if the project is approved.	The Proponent acknowledges that a resource recovery order and exemption is required to be obtained prior to any reuse of wastes if the project is approved.

Air Quality

The Air Quality Impact Assessment (**AQIA**) has been updated following advice from NSW EPA (see the revised AQIA attached at Attachment D of this Submissions Report) and the matters raised have been addressed as follows:

Issue	Response
Acknowledgement that the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 must be complied with if the project is approved	The Proponent acknowledges that the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 (**Clean Air Regulation**) must be complied with for Project approval.
Revised modelling scenarios demonstrating that emissions can comply with the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 for all relevant pollutants	Six scenarios have been modelled in the AQIA – scenarios 1 and 2 do not comply with the Clean Air Regulation without significant modification to the units used in these scenarios and will not be pursued given the units modelled in scenarios 3 – 6 can comply with no modifications required. Scenarios 3 – 6 model emission rates comply with the Clean Air Regulation. The AQIA has been revised to clarify this point.

Issue	Response
	As noted in section 8.7 of the AQIA, if three turbines were required as modelled in scenarios 1 and 2, the design, installation and operation of these generators will incorporate the ability to retrofit air pollution emission controls to ensure compliance with the Clean Air Regulation.
Provide supporting evidence, such as a manufacturer's specification reports, performance guarantee, or test certificates to demonstrate that the equipment plant emissions will comply with limits included in the Protection of the Environment Operations (Clean Air) Regulation 2022 for all operating scenarios.	Technical specifications provided by each of the OEM suppliers to the Proponent for the purposes of conducting the AQIA cannot be provided as this information is subject to strict confidentiality requirements. The Proponent acknowledges that the requirements of the Protection of the Environment Operations (Clean Air) Regulation 2022 must be complied with for Project approval.
Emission variability, including Start-up and shutdown emissions, not assessed. The AQIA be revised to robustly assess the potential impacts from all relevant pollutants due to emissions changes during the plant start-up and shutdowns.	Section 8.5.7 has been updated to address the start up and shut down emissions. Based on the analysis in section 8.5.7 of the AQIA, the NOx hourly average mass emission rate is 23% higher than during steady state conditions and represents a 3% decrease in flow rate for that corresponding hour. This marginal difference in flow rate, and 23% increase would not alter the compliance outcomes of the modelling assessment undertaken. All scenarios that comply with the Clean Air Regulation (scenarios 3-6) will comply with the *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* (EPA 2022) (**Approved Methods**) criteria during steady state and startup and shut down operational conditions.
Description and supporting evidence to transparently demonstrate that the adopted modelling scenarios are representative of the final plant design and reasonable worst-case emissions.	Scenarios 1 and 2 are based on worst case emission scenarios for a particular unit. Technical specifications from the supplier are not released due to confidentiality. For the unit modelled in scenarios 1 and 2, four natural gas based scenarios and concentration limits were provided by the supplier and six liquid fuel scenarios were provided, the worst case of each was used in scenario 1 and 2. The unit used for scenario 1 and 2 is not recommended because it does not comply with the clean air regulation without significant modifications. Scenarios 3 and 4 are based on the Clean Air Regulation limits for NOx, retaining the exhaust parameters for scenario 1 and 2 to demonstrate the ground level concentrations if the Clean Air Regulation limits are met.

Issue	Response
	Scenario 5 and 6 present the concentrations of two different units from two different suppliers, the technical specifications of these two suppliers are also subject to confidentiality agreements. Stack parameters were selected based on worst case emission parameters for each unit considered. The report demonstrates that if the units meet the Clean Air Regulation, the development will comply with the ground level concentration criteria presented in the Approved Methods.
Information used to estimate emission rates for all pollutants	The information used for calculating the exhaust parameters are provided in Table 8-2 of the AQIA, normalised concentrations for NOx and CO were provided by the suppliers as well as normalised flow rates. The emission rates in Table 8-2 apply to each source. The Proponent acknowledges that if approved a Proof of Performance will be required. Technical specifications provided by each of the OEM suppliers to the Proponent for the purposes of conducting the AQIA cannot be provided as this information is subject to strict confidentiality requirements.
Assessment of all relevant pollutants.	The NPI data provides emission estimation techniques and rates for various pollutants and mentioned in section 5.4 of the EIS. Notably, the modelling efforts have focused on the pollutant with the highest emission ratio rate concerning impact assessment criteria. In this case, the modelling has primarily targeted Nitrogen Dioxide (NO2) due to its significant risk. Individual toxic pollutants are addressed in section 8.4.1.2 of the AQIA.
Validation of modelled meteorology.	A comparison of wind rose plots was conducted using the Weather Research and Forecasting (WRF) and the nearest weather station data at Dubbo Regional Airport. By observing the wind rose plots, overall, the frequencies of wind speeds for the WRF were very similar in comparison to Dubbo station data. WRF represents a more accurate estimation of low wind speed (indicated by yellow petals) as compared to the Dubbo airport data.
The AQIA may not account for maximum predicted impacts. The AQIA be revised to: • Demonstrate that the modelling domain is appropriate, captures maximum impacts and plume grounding is not occurring outside the modelled domain.	The AQIA has been updated to include an additional receptor R13 to the south where the most significant grounding has occurred at distance.

Issue	Response
• Include additional discrete receptors to the south, west, southwest from the facility, where large ground level concentrations have been predicted as shown in contour plots in the AQIA.	Additional contours have been provided in the revised AQIA to demonstrate impacts in all directions at the nearfield and far field.
It is unclear if the risk of odour emissions has been evaluated. Confirm whether water treatment operations will be undertaken at the premises and demonstrate that the risk of odour impacts has been robustly evaluated. Consideration must be given but not necessarily limited to the likely odour impacts resulting from the use, handling, storage and or treatment of water from the nominated water source.	The Project will not treat raw, recycled or effluent water at the Project site. Any water to be used at the Project site will meet the required potable water standards (per Dubbo Water Mains water quality standard) prior to it entering the Project site. Please refer to discussion in respect of odour above.

Greenhouse Gas Assessment

Issue	Response
Scope of emissions. Further justification and/or clarification on the scope of emissions in relation to fuels and other activities.	Biodiesel has been used as the most conservative of the biofuels (including ethanol) in relation to emissions. Regarding the potential use of hydrogen gas generated from an on-site electrolyser, it has been determined that (depending on the proponent's final unit selection) the Open Cycle Gas Turbines (OCGT) can run on a blend of up to 25% *hydrogen*. Scope 2 emissions associated with on-site hydrogen production were decidedly excluded from the report as hydrogen will exclusively be generated during low spot-pricing periods when excess renewable energy (i.e. solar and wind) can be sourced from the grid. The Project is not proposing to utilise natural gas (or electricity generated at the site using natural gas) to produce hydrogen. Consequently, scenarios considering hydrogen blends will have less GHG emissions and therefore are not considered worst case. Scope 3 emissions have been included in the updated AQIA. This pertains to diesel emissions during construction, operation, and decommissioning phases. The calculations for Scope 3 diesel emissions were derived from anticipated off-site vehicle movements (for example, travel to and from the Project site, deliveries and employee transportation) from the Traffic Impact Assessment conducted by Amber Organisation in March of 2023. Scope 3 emissions regarding decommissioning of the site were assumed to be of a similar magnitude to the construction phase emissions,

Issue	Response
	thus predicted GHG emissions were the same for both phases.
Further information on open cycle gas turbines and capability of using fuel blends and operation of the electrolyser and ancillaries.	Refer to response to DPE Hazards in relation to technology and capability of use of fuels (including compliance with relevant standards). The Project is not proposing to utilise natural gas (or electricity generated at the site using natural gas) to produce hydrogen. It will source excess renewable energy from the grid to produce hydrogen.
The Greenhouse Assessment be revised to include updated GHG emission calculations.	The energy content factor as GJ/kL was included in Table 9.1 for comparison only against other liquid fuels. The calculation of the GHG emissions in Table 9.3 is based on energy consumption (GJ/MWh) as provided for the most conservative of turbines multiplied by the duty (12% or 6%) and emission factor per Table 9.1. The energy content factor is not included in these calculations. References have been updated in the AQIA to the most recent February 2023 Australian National Greenhouse Accounts Factors. Further clarification between Scope 2 and Scope 3 emission factors is included in the revised AQIA. The CO_2 summaries in Table 9.3 have been re-calculated with the inclusion of the CO_2 emissions form usage of natural gas in conjunction with Biofuels (Scenario 2) and E100 (Scenario 3). Further, Option B within Scenario 2 and Scenario 3 in which fuel oil was used as an estimate in place of biofuels and natural gas has been removed from the updated AQIA to avoid confusion.
Greenhouse Gas Abatement Measures - Further justification on proposed mitigation measures including use of biofuels	The primary GHG abatement measure proposed within the assessment is the use of biofuels/associated fuels with reduced emissions. Engagement with the market regarding the security of eligible waste fuel contracts for plant operations will be based on market availability post construction. Reductions of emissions from the use of eligible waste fuels will be pursued where it is commercially viable to do so.

Water Quality

Issue	Response
Further information on the intended discharge location for 'clean' stormwater and contaminated stormwater along with the intended use for the receiving pasture	Any equipment that has the potential to leak or spill contamination such as oils, fuel or grease will be installed within a concrete bund. These concrete bunds will have a sump and a drain valve which will be locked in the closed position. The occurrence of leaks or spills is considered to be rare and in the event this does occur these leaks will likely be less than 100 litres. In the event of a leak or spill, the contamination will be contained within the bund to prevent it mixing with the stormwater. This will allow operations personnel to empty the bund using a vacuum truck and dispose of this contamination offsite at a registered facility. This is an industry standard process for ensuring this contamination does not make it to the pasture. The stormwater volumes are detailed within section 2.2.2 of the Land and Water Impact Assessment Report (Premise). All this stormwater will be considered clean and suitable for application to land.
Further information on the use of recycled water for use in the power station	Sufficient water can be sourced from the mains system on Yarrandale Road and Fletchers International Exports to meet the water requirements for the Project during operations. The use of treated recycled water would only be considered if the above water sources were unable to facilitate the supply of water. The method of treatment would require the use of reverse osmosis (RO), ultrafiltration (UF), microfiltration (MF) and nanofiltration (NF) technology.
Further information on the integrity and performance of the existing site dam	The existing onsite dam will be reconditioned and sized to facilitate the required On-site Stormwater Detention (OSD) volumes as defined in Section 2.2.2 of the Land and Water Impact Assessment Report (Premise). The reconditioning of this dam will meet all contemporary standards to prevent pollution of waters.

Noise

The Noise Impact Assessment (**NIA**) has been updated following advice from NSW EPA (the revised NIA is attached at Attachment E) and the matters raised have been addressed as follows:

Issue	Response
Information to demonstrate that the project trigger levels associated with start-up and shutdown events can be achieved	The Noise Impact Assessment (NIA) states in Section 6.4.5 that the noise levels associated with start-up and shutdown events are predicted to comply with the project noise trigger levels set for the proposal if the generator sound power levels for start-up and shutdown events are within those shown in Table 6-7 (114 dBA overall LAeq). The NIA further states in Section 6.4.5 that start-up and shutdown vents should be designed to facilitate silencers and assess compliance with noise criteria for these events during post-commissioning noise monitoring. A similar approach has been taken in Section 6.6 and 6.7 of the NIA relating to noise from the mixing skid vents for the hydrogen plant. As noted in the NIA (Appendix J of the EIS), the Proponent must provide written confirmation that these sound power level requirements are achievable in practice, through the design and installation of inlet and outlet silencers, equipment enclosures, and the like. The proponent should also confirm that additional noise mitigation measures are available to promptly and effectively address any residual exceedances of the noise criteria identified during the post-commissioning compliance assessment.
Construction works outside of standard hours	Construction work is proposed between the hours of 7:00am to 6:00pm weekdays and 7:00am to 1:00pm on Saturdays.

4.2.8 CASA

Issue	Response
Inconsistency in exhaust velocities in the Scenarios presented in the EIS against the previous Form 1247 undertaken in December 2022.	The Proponent has engaged with CASA. Based on these engagements, an updated Form 1247 was submitted to CASA reflecting updated scenarios (5 and 6).
Further engagement with Dubbo Regional Airport in relation to the updated scenarios.	The Proponent previously engaged with the Dubbo Regional Airport in relation to the Project including at the time of submission of the previous Form 1247 submission in November 2022.

Issue	Response
	The Proponent has re-engaged with Dubbo Regional Airport in relation to the updated scenarios as part of the re-submission of the Form 1247 to CASA.

4.2.9 Rural Fire Service NSW

Issue	Response
Preparation of a Bush Fire Emergency Management and Evacuation Plan	This is addressed in section 7 and point 5 of section 9 of the Bush Fire Assessment Report prepared by Bushfire Consulting Services dated 20 February 2023 (**Bush Fire Assessment Report**) and section 9.4.5 of the EIS.
Asset Protection Zones	This is addressed in sections 6.3 and point 1 of Section 9 of the Bush Fire Assessment Report and section 9.4.5 of the EIS.
Construction Standards	This is addressed in section 8.8 and point 2 of Section 9 of the Bush Fire Assessment Report and section 9.4.5 of the EIS.
Access – Internal Roads	This is addressed in section 7 of the Bush Fire Assessment Report.
Water and Utility Services	This is addressed in section 7 and points 3 and 4 of Section 9 of the Bush Fire Assessment Report and section 9.4.5 of the EIS.

5 UPDATED PROJECT JUSTIFICATION

The submissions and advice received following public exhibition of the Project EIS do not raise any issues which require an updated justification and evaluation of the Project. Reference is made to Chapter 17 of the EIS.

APPENDIX A - SUBMISSIONS REGISTER

Group	Name	Section where issues addressed in submissions report
Public authorities	EPA	Section 4.2.7
	Office of Energy and Climate Change	Section 4.2.2
	DPE – Hazards	Section 4.2.3
	DPE – Biodiversity, Conservation and Science	No issues to be addressed
	Heritage NSW	Section 4.2.5
	CASA	Section 4.2.8
	Rural Fire Service NSW	Section 4.2.9
Councils	Dubbo Regional Council	Section 4.2.1
Stakeholder Groups	Sydney Knitting Nannas	Section 4.1
Individuals	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1
	Ian McDonald	Section 4.1
	Anonymous	Section 4.1
	Anonymous	Section 4.1