



New South Wales Government
Independent Planning Commission

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Dubbo Firming Power Station SSD-28088034

Statement of Reasons for Decision

Ken Kanofski (Chair)
Michael Chilcott
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13 May 2024

Executive Summary

Dubbo Firming Nominees Pty Ltd, a wholly owned subsidiary of Squadron Energy (the Applicant), has sought consent for the development of a new 64-megawatt (MW) firming power station, a hydrogen generation plant and ancillary infrastructure including gas and fuel storage, a gas storage pipeline and connection to the existing gas network, known as Dubbo Firming Power Station (SSD-28088034) (the Project).

The Project would supply firming electricity to the grid on an as-needed basis when the supply of electricity from other sources is insufficient to meet demand (estimated to be around 1,000 hours per year). The Project as proposed would operate on natural gas (methane). However, it would be capable of operating on a hydrogen / methane gas blend of up to 25% hydrogen by volume (with the balance methane), as well as on biofuels.

The Project represents an investment of approximately \$190 million and is proposed to generate approximately 150 construction and 6 operational jobs.

The NSW Independent Planning Commission (the Commission) is the consent authority for the Project because the Applicant has made a reportable political donation.

Commissioners Ken Kanofski (Chair), Michael Chilcott, and Andrew Mills were appointed to constitute the Commission Panel in determining the application. As part of its determination process, the Commission met with representatives of the Applicant, the Department of Planning, Housing and Infrastructure (the Department), and Dubbo Regional Council (Council). The Commission also undertook a site inspection.

Key issues which are the subject of findings in this Statement of Reasons for Decision relate to hazards and risks (including explosion, toxicity, bushfire and aviation safety), air quality, and greenhouse gas emissions (GHG).

After careful consideration, the Commission has determined that consent should be granted to the application, subject to conditions. The Commission finds that the Project site (the Site) is suitable for the development of a firming power station given its location within the Central-West Orana Renewable Energy Zone (REZ), proximity to existing electricity and gas networks, location in a heavy industrial area of Dubbo, the Site's zoning, and access to the regional road network including heavy vehicle routes.

The Commission finds that the Project is consistent with the applicable Federal and State Government strategic planning and energy frameworks, including the NSW Government's Hydrogen Strategy 2021 and Electricity Infrastructure Roadmap 2019. The Project would assist in the transition of electricity supply from traditional coal and gas fired power generation to renewable energy generation, and provide security to the NSW electricity grid when the supply of electricity from other sources (particularly intermittent sources such as wind and solar power) is insufficient to meet demand.

The Commission has imposed conditions which seek to prevent, minimise, and/or offset adverse impacts of the Project and to ensure appropriate ongoing monitoring and management of any residual impacts. The conditions strengthen the environmental and social management of the development and respond to concerns raised by stakeholders and the community during the Commission's consideration of the Project.

The Commission has considered the material and taken into account the views of the community. The Commission finds that the Project is consistent with applicable strategic planning, energy policies and frameworks and relevant statutory considerations.

The Commission is satisfied that the Project is consistent with the Objects of the *Environmental Planning & Assessment Act 1979* and its approval is in the public interest.

The Commission's reasons for granting development consent to the Application, subject to conditions, are set out in this Statement of Reasons for Decision.

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Defined Terms

ABBREVIATION	DEFINITION
Applicant	Dubbo Firming Nominees Pty Ltd, a wholly owned subsidiary of Squadron Energy
Application	Dubbo Firming Power Station (SSD-28088034)
Approved Methods	Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016)
AQIA	Air Quality Impact Assessment
AR para	Paragraph of the Department's Assessment Report
CASA	Civil Aviation Safety Authority
CIV	Capital investment value
Clean Air Regulation	Protection of the Environment Operation (Clean Air) Regulation 2021
Commission	Independent Planning Commission of NSW
Council	Dubbo Regional Council
CWP	Central West Pipeline
Department	Department of Planning, Housing and Infrastructure
Department's AR	Department's Assessment Report, dated March 2024
DLEP 2022	Dubbo Local Environmental Plan 2022
EIS	Environmental Impact Statement
EP&A Act	Environmental Planning and Assessment Act 1979
EPA	NSW Environment Protection Agency
EPI	Environmental Planning Instrument
EPL	Environment Protection Licence
ESD	Ecologically Sustainable Development
ETL	Electricity transmission line
GHG	Greenhouse gas
LGA	Local Government Area
Mandatory Considerations	Relevant mandatory considerations, as provided in s 4.15(1) of the EP&A Act
Material	The material set out in section 3.1
MW	Megawatt
NPfi	NSW Noise Policy for Industry
PHA	Preliminary Hazards Analysis
Planning Systems SEPP	State Environmental Planning Policy (Planning Systems) 2021
Project	Construction and operation of 64 MW firming power station, a hydrogen generation plant and ancillary infrastructure including gas and fuel storage including a gas storage pipeline and connection to the existing gas network
Regulations	Environmental Planning and Assessment Regulation 2000
Resilience and Hazards SEPP	State Environmental Planning Policy (Resilience and Hazards) 2021
REZ	Renewable Energy Zone
RFS	NSW Rural Fire Service
RtS	Response to Submissions
Site	The Project site as defined at section 2.1
SSD	State significant development
Transport and Infrastructure SEPP	State Environmental Planning Policy (Transport and Infrastructure) 2021
VPA	Voluntary Planning Agreement
Yarrandale substation	Essential Energy Yarrandale electrical substation

1. Introduction

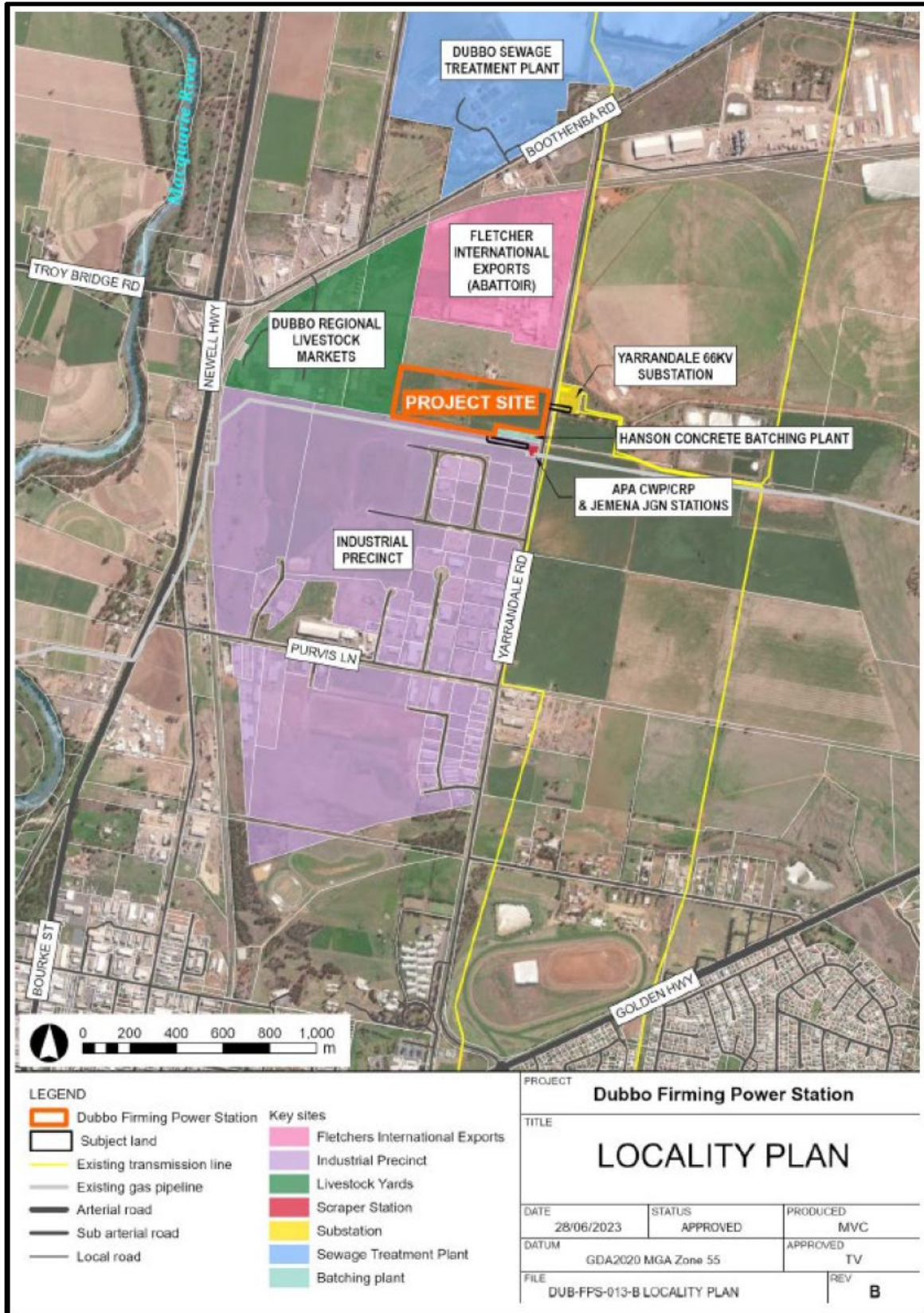
1. On 28 March 2024, the NSW Department of Planning, Housing and Infrastructure (**Department**) referred the State significant development (**SSD**) Application SSD-28088034 (**Application**) from Dubbo Firing Nominees Pty Ltd (**Applicant**), a wholly owned subsidiary of Squadron Energy, to the NSW Independent Planning Commission (**Commission**) for determination.
2. The Application seeks approval for the Dubbo Firing Power Station (the **Project**) located in the Dubbo Regional Local Government Area (**LGA**) under section 4.38 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**).
3. The Application constitutes SSD under section 4.36 as the Project is permissible with consent and has a capital investment value (**CIV**) exceeding \$30 million for the purpose of electricity generating works, under section 20, Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* (**Planning Systems SEPP**).
4. In accordance with section 4.5(a) of the EP&A Act and section 2.7 of the Planning Systems SEPP, the Commission is the consent authority as the Applicant has made a reportable political donation.
5. Andrew Mills, Chair of the Commission, determined that he, along with Ken Kanofski (Chair) and Michael Chilcott would constitute the Commission for the purpose of exercising its functions with respect to the Application.
6. The Department concluded in its Assessment Report (**AR**) that the benefits of the Project would outweigh its costs, and recommended that approval of the Application, subject to conditions, would be in the public interest.

2. The Application

2.1 Site and Locality

7. The Project site (the **Site**) is located at 28L Yarrandale Road in a heavy industrial area of Dubbo, approximately 4.5km north of the city centre (refer Figure 1). As the Department's AR identifies at paragraph (**AR para**) 14, the Site is surrounded by existing industrial operations, such as Hanson's Dubbo Concrete Batching Plant, Fletcher International Exports, Dubbo Livestock Markets and the Dubbo Sewage Treatment Plant. The Site is approximately 4.5km east of Dubbo Airport.
8. The Site is located within the within the Central-West Orana Renewable Energy Zone (**REZ**). The existing Central West Pipeline (**CWP**) runs adjacent to the Site's southern boundary and the Essential Energy Yarrandale electrical substation (**Yarrandale substation**) is directly across Yarrandale Road from the Site (AR para 14-15).
9. The Site is zoned E5 Heavy Industrial under the Dubbo Local Environmental Plan 2022 (**DLEP 2022**).

Figure 1 – Local context map (Source: AR Figure 2)



2.2 The Project

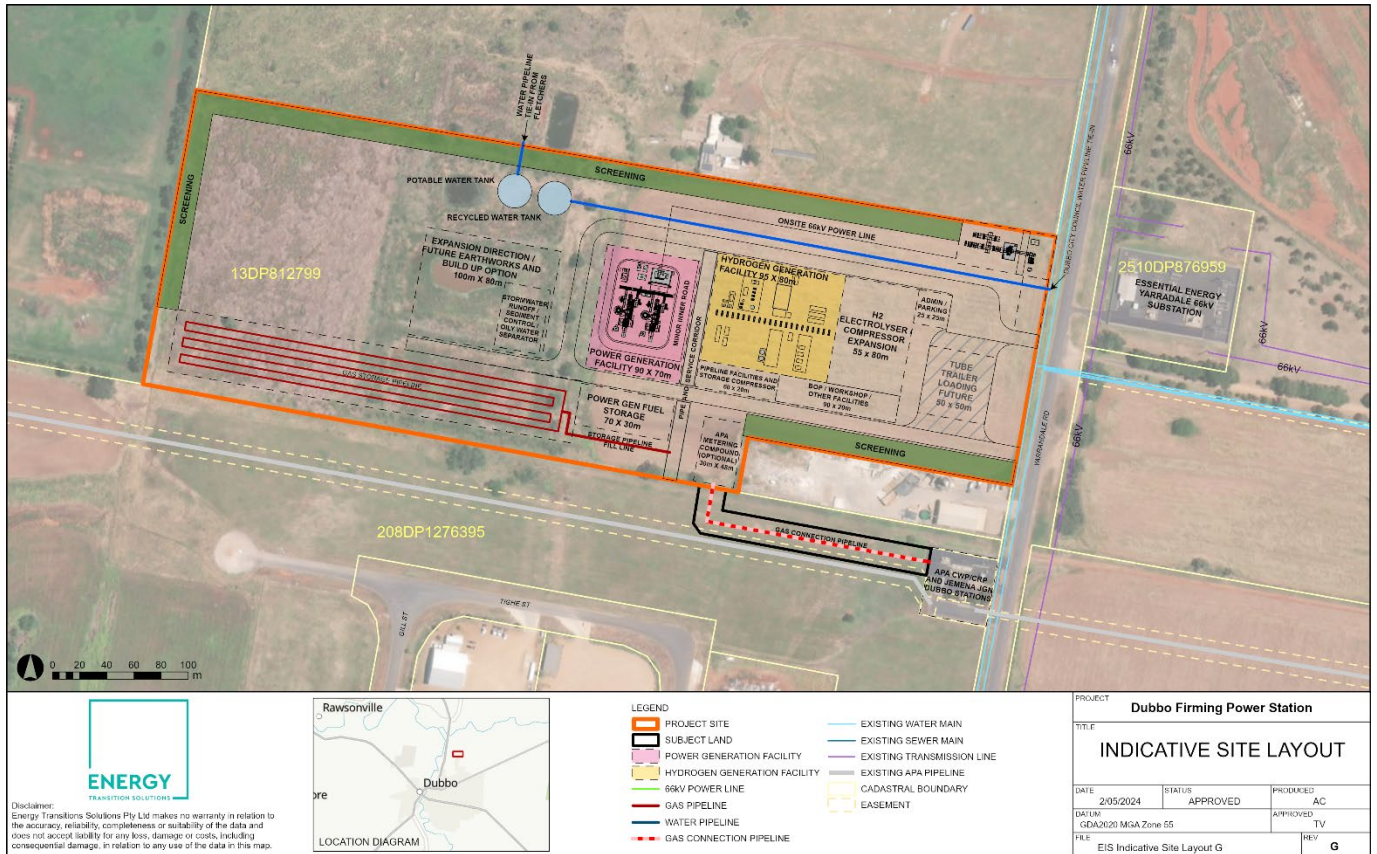
2.2.1 Overview

10. The Applicant is seeking approval for construction of a dual-fuel (gas and liquid) power station that would generate up to 64 megawatts (**MW**) of electricity, and a hydrogen generation facility capable of producing 330 kilograms per hour of hydrogen. The Project would also comprise ancillary infrastructure including a gas storage pipeline, storage tanks for hydrogen and biofuels, and connections to the NSW gas pipeline network (AR para 2).
11. According to the Department, the Project would operate on an as-needed basis to provide firming electricity to the NSW electricity grid when the supply of electricity in the grid is insufficient to meet demand. Based on forecast data from the Australian Energy Market Operator and Squadron Energy's renewable network, it is predicted that the power station would be in operation approximately 12% of the time, or around 1,000 hours per year (AR para 3).
12. The Project as proposed would operate on natural gas (methane). However, it would be capable of operating on a hydrogen / methane gas blend of up to 25% hydrogen (with the balance methane) by volume and also on biofuels. Hydrogen produced in the on-site hydrogen generation plant would be compressed and stored in tanks on-site and blended with the natural gas and fed into the power station as needed. The Applicant has committed to only using the electrolyser to produce green hydrogen during periods when there is excess electricity supply from renewable energy. Natural gas for the Project would be supplied by the CWP, and electricity produced by the Project would be fed to the grid via the Yarrandale substation (AR para 4-8).
13. The proposed Site layout is shown at Figure 2 below. Further detail about the main aspects of the Project is provided at Table 1 of the AR.

2.2.2 Related works

14. The Project includes construction and operation of a 150m long high-pressure buried gas pipeline that would connect to the CWP (refer Figure 2) (AR para 12).
15. As confirmed by the Applicant via its Amendment Letter dated 3 May 2024 and accepted by the Department on 9 May 2024, the installation of the 66 kilovolt electricity transmission line (**ETL**) and connection to Yarrandale substation enabling connection to the broader NSW electricity grid is proposed to be separately applied for under a process managed by Essential Energy (as a determining authority under Part 5, Division 5.1 of the EP&A Act).

Figure 2 – Site layout (Source: Amendment Letter Appendix A – Updated Indicative Site Layout)



3. The Commission’s Consideration

3.1 Material Considered by the Commission

16. In this determination, the Commission has considered the following material (**Material**):
- the Planning Secretary’s Environmental Assessment Requirements (**SEARs**) issued by the Department, dated 21 November 2022;
 - the following information provided by the Applicant:
 - the Environmental Impact Statement dated 24 July 2023 (**EIS**), and its accompanying appendices;
 - the Response to Submissions Report dated 8 November 2023 (**RtS**), and its accompanying appendices;
 - all responses to the Department’s additional information requests; and
 - the Amendment Letter dated 3 May 2024, and its accompanying Appendix A (Updated Indicative Site Layout).
 - all public submissions on the EIS made to the Department during public exhibition;
 - all Government Agency advice to the Department;
 - the Department’s AR, dated March 2024;
 - the Department’s recommended conditions of consent, dated March 2024;
 - comments and presentation material at meetings with the Department, Applicant, and Dubbo Regional Council (**Council**), as referenced in Table 2 below.

- the Applicant's response to the Commission's request for information, dated 30 April 2024;
- Council's submission to the Commission, dated 16 April 2024;
- all written comments received by the Commission up until 5pm, 19 April 2024;
- all observations and material gathered at the Site Inspection on 15 April 2024;
- the Department's letter, dated 9 May 2024, confirming acceptance of the Applicant's application to amend the Project;
- the Department's comment (dated 10 May 2024) on the feasibility, workability, and any potential unintended consequences of the proposed conditions.

3.2 Strategic Context

17. The Commission has considered the strategic planning policies and guidelines relevant to the Site and the Project. The Commission noted the Department's assessment that the Project is consistent with both the Federal and NSW Government's strategic planning frameworks as, with the imposed conditions, the Project would deliver up to 64 MW of power for short periods of time on an as needed basis, providing firming electricity supply required to maintain grid stability during periods when renewable energy generators are operating below their maximum capacity or are impacted by maintenance outages and demand surges.
18. In addition, the Project would generate benefits to the local and regional community, including up to 150 construction and 6 operational jobs, and flow-on benefits to the local and regional economies through expenditure and the procurement of goods and services. The Council has received an offer from the Applicant to enter into a Voluntary Planning Agreement (**VPA**) (refer sections 3.4 and 5.3 of this report), which would deliver broader community benefits from the commencement of construction.
19. Although it will operate on natural gas, the Project also possesses the capacity to generate green electricity from hydrogen and/or biofuels in the future, as the utilisation of these sources becomes more economically feasible.

3.2.1 Energy context

20. In determining the Application, the Commission has also considered the following plans and strategies forming part of the Federal and NSW Government's strategic planning frameworks:
 - Long Term Emissions Reduction Plan 2021 (Australian Government);
 - Annual Climate Change Statement 2022 (Australian Government);
 - 2022 Integrated System Plan (Australian Energy Market Operator);
 - Gas Statement of Opportunities 2023 (Australian Energy Market Operator);
 - NSW Climate Change Policy Framework 2016 (NSW Government);
 - Net Zero Plan Stage 1: 2020-2030 and Net Zero Plan Stage 1: 2020-2030 Implementation Plan (NSW Government);
 - NSW Hydrogen Strategy 2021 (NSW Government); and
 - NSW Electricity Infrastructure Roadmap 2019 (NSW Government).
21. The Commission notes the Department's assessment that the Project is consistent with the above Federal and State plans and strategies (refer to section 3.2 of the AR), and would assist in the transition of electricity supply from traditional coal and gas fired power generation to renewable energy generation.

3.2.2 Regional and Local Plans

22. In determining the Application, the Commission has also considered the following regional and local plans:
- Central West and Orana Regional Plan 2041
 - Dubbo Regional Council Energy Strategy & Implementation Plan 2020-2025
23. The Commission agrees that the Project is consistent with the above regional and local strategies, particularly the Central West and Orana Regional Plan 2041 which identifies renewable energy generation as a key future growth opportunity for the region.

3.3 Statutory Context

3.3.1 State significant development

24. The Application is SSD under section 4.36 of the EP&A Act and as per section 20 of Schedule 1 of the Planning Systems SEPP. In accordance with section 4.5(a) of the EP&A Act and section 2.7 of the Planning Systems SEPP, the Commission is the consent authority as the Applicant has made a reportable political donation.

3.3.2 Permissibility

25. Electricity generating works are not prohibited or permitted without consent in land zoned E5 under the DLEP 2022, and therefore are permissible with consent. Pursuant to section 2.36(1) of the *State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)*, electricity generating works may be carried out with consent on any land in a prescribed non-residential zone.

3.3.3 Integrated and other NSW Approvals

26. The Project would require an environment protection licence (**EPL**) issued by the NSW Environment Protection Authority (**EPA**) under section 42 of the *Protection of the Environment Operations Act 1997* (AR para 25).
27. Under section 4.41 of the EP&A Act, several other approvals are integrated into the SSD approval process, and therefore are not required to be separately obtained for the Project (AR para 28-30). The Commission has considered the Department's recommended conditions of consent relating to integrated and other approvals as part of its assessment of the Application.

3.3.4 Amended Application

28. In accordance with section 37 of the *Environmental Planning and Assessment Regulation 2021*, a development application can be amended at any time before the application is determined. Following discussions with the Commission during the site inspection on 15 April 2024 and stakeholder meeting on 16 April 2024, the Applicant amended the Application to remove the ETL and connection to Yarrandale substation. The Department approved this application on 9 May 2024 as the Commission's delegate.
29. In its correspondence to the Commission dated 10 May 2024, the Department confirmed that the removal of the ETL from the Project would not increase the Project's environmental impacts, and that the Department's recommended conditions remain fit for purpose.

3.4 Mandatory Considerations

30. In determining this Application, the Commission is required by section 4.15(1) of the EP&A Act to take into consideration such of the listed matters as are of relevance to the development the subject of the Application (**Mandatory Considerations**). The mandatory considerations are not an exhaustive statement of the matters that the Commission is permitted to consider in determining the Application. To the extent that any of the Material does not fall within the mandatory considerations, the Commission has considered that Material where it is permitted to do so, having regard to the subject matter, scope and purpose of the EP&A Act.

Table 1 – Mandatory Considerations

Mandatory Considerations	Commission’s Comments
Relevant EPIs	<p>Appendix D of the Department’s AR identifies the relevant environmental planning instruments (EPIs) for consideration. The key EPIs (in their present, consolidated form) include:</p> <ul style="list-style-type: none"> • Planning Systems SEPP; • Transport and Infrastructure SEPP; • State Environmental Planning Policy (Resilience and Hazards) 2021 (Resilience and Hazards SEPP); • State Environmental Planning Policy (Resources and Energy) 2021; • DLEP 2022 <p>The Commission agrees with the Department’s assessment of EPIs set out in Appendix D of the AR. The Commission therefore adopts the Department’s assessment.</p>
Relevant DCPs	<p>Section 2.10 of the Planning Systems SEPP states that development control plans do not apply to SSD. Consequently, the Commission has not considered any development control plans in its determination of the Application.</p>
Planning Agreement	<p>The Commission has noted the terms of a VPA that the Applicant has agreed in principle with Council for the Project, in accordance with section 4.15(1)(iia) of the EP&A Act. The terms of the VPA comprise:</p> <ul style="list-style-type: none"> • A one-time payment of \$950,000 prior to the commencement of construction; or • An annual payment of \$71,250 over the life of the project (adjusted annually for CPI from the commencement of construction); or • An alternative amount or timing agreed by Council. <p>Council’s submission to the Commission dated 19 April 2024 noted that the offer is in accordance with Council’s Renewable Energy Benefit Framework, and will be presented to a Council meeting at a later date for consideration. The grant of conditional consent by the Commission to the Application is not dependent upon Council’s agreement or otherwise to the VPA offered by the Applicant.</p>
Likely Impacts of the Development	<p>The likely impacts of the Application have been considered in section 5 of this Statement of Reasons.</p>

Suitability of the Site for Development	<p>The Commission has considered the suitability of the Site and finds that the Site is suitable for the following reasons:</p> <ul style="list-style-type: none"> • the Application is permissible with consent; • the Site is located within an identified REZ, the Central-West Orana REZ; • decommissioning and rehabilitation would be capable of returning the land to its pre-development condition; • adverse impacts on surrounding land uses have been minimised as far as practicable and would be further managed and mitigated by the imposed conditions of consent; • the Site is an existing heavy industrial area, and is not located close to any sensitive residential receivers; • the Site is located close to existing electricity transmission and gas networks; • the Site has access to the regional road network, including heavy vehicle transport routes; • the use of the Site for the purpose of electricity generation is an orderly and economic use and development of land; • the development of the Site for the purpose of electricity generation will facilitate social and economic benefits for the community and for the State of NSW; • the development of the Site for the purpose of electricity generation will contribute to the orderly transition from traditional coal and gas fired power generation to power generation with lower emissions; and • the development of the Site will assist in meeting Australia's and NSW's target of net zero emissions by 2050.
Objects of the EP&A Act	<p>The Commission is satisfied that the Application is consistent with the Objects of the EP&A Act.</p>
Ecologically Sustainable Development	<p>The Commission finds that the Project is consistent with ESD principles including in relation to environmental, economic and social considerations.</p>
The Public Interest	<p>The Commission has considered whether the grant of conditional consent to the Application is in the public interest. In doing so, the Commission has evaluated the likely impacts of the Application.</p> <p>The Commission's consideration of the public interest has also been informed by consideration of the principles of ESD.</p> <p>The Commission has concluded that approval of the Project is in the public interest and merits the grant of consent, subject to conditions.</p>

3.5 Additional Considerations

31. In determining the Application, the Commission has also considered:
- United Nations Framework Convention on Climate Change *Paris Agreement 2015*;
 - NSW Noise Policy for Industry (**NPfI**);
 - Interim Construction Noise Guideline;
 - Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2016) (**Approved Methods**); and
 - Social Impact Assessment Guideline for State Significant Projects (NSW Government, 2021).

3.6 The Commission's Meetings

32. As part of the determination process, the Commission met with various persons as set out in Table 2. All meeting and site inspection notes were made available on the Commission's website.

Table 2 – Commission's Meetings

Meeting	Date	Transcript/Notes Available on
Department	10 April 2024	15 April 2024
Site Inspection	15 April 2024	18 April 2024
Applicant	16 April 2024	18 April 2024
Council	16 April 2024	18 April 2024

4. Community participation & public submissions

4.1 Community attendance at the Site Inspection

33. On 15 April 2024, the Commission Panel conducted an inspection of the Site. In accordance with the Commission's *Site Inspection and Locality Tour Guidelines* and *Transparency Policy*, the Commission Panel may exercise its discretion to invite community observers to attend a site inspection. In this instance, the Commission Panel chose to invite a representative from Council to attend the site inspection as an observer and representative of the community, with Council accepting the Commission's offer. Two of the Applicant's representatives also attended the site inspection.
34. The Commission published site inspection notes on its website, as indicated in Table 2 above.

4.2 Public Submissions

35. Consideration has been given to the matters raised in the submissions received by the Commission (see section 5 below). All persons were offered the opportunity to make written submissions to the Commission until 5.00pm, Friday 19 April 2024.
36. The Commission received a total of 9 written submissions on the Application, comprising 4 submissions through its website and 5 emailed submissions.

4.2.1 Issues Raised

37. Public submissions raised a number of issues, which are outlined below. The Commission notes that the submissions referred to below are not an exhaustive report of the submissions considered by the Commission, they are reflective and illustrative of what the Commission regards as the key issues that emerge from the submissions.

Energy transition

38. The majority of submissions received raised concern about renewable energy development in general, particularly the intermittency of wind and solar energy, rather than specific concerns about the Project itself. One submitter stated that they perceived gas power turbines to be a stop gap measure and queried their environmental performance.

Hydrogen generation

39. Submitters raised concern about the proposed hydrogen generation aspect of the Project, with submissions querying the efficiency and feasibility of hydrogen production.

Socioeconomic

40. Submissions, including Council's, raised concern about accommodation and housing pressures within the LGA and the lack of worker accommodation options as a result of the LGA's position within the Central-West Orana REZ.
41. Council's submission also noted that the VPA is in accordance with Council's Renewable Energy Benefit Framework and that it has not received any feedback from the community in relation to the Project.

Hazards and risks

42. A submission raised concern about the Project's potential to increase bushfire risk for the area, given its location on designated bushfire prone land, and queried whether the Project had been referred to the applicable government agencies for their comment.

Traffic and transport

43. One submitter expressed concern about the Project's traffic and transport impacts, particularly the Golden Highway and flow on impacts to other road users such as school buses and local industry.

5. Key Issues

5.1 Hazards and risks

44. The Project's hazards and risks entail (AR para 54):
- the storage of hydrogen and natural gas and the transport and storage of ethanol, all of which are classified as dangerous goods and pose risks of explosion, fire or toxic plumes;
 - bushfire risk, given the Site is surrounded by grassland and in a designated bushfire prone area; and
 - the Site's proximity to Dubbo Airport, as plumes from the power station stacks could impact on aircraft operations.
45. As part of the EIS, the Applicant submitted a preliminary hazards analysis (**PHA**), dated July 2023 and a bushfire risk assessment, dated February 2023. The Applicant has also engaged with the Civil Aviation Safety Authority (**CASA**) regarding the proposed design and exhausts of the power station stacks (AR para 85).

46. The PHA concluded that the risks from the Project would comply “with all quantitative and qualitative land use safety risk criteria in [*Hazardous Industry Planning Advisory Paper No 4*]”, and that “no restrictions on the range and extent of fuels used in the operation of the [Project] would be required” (page 4). As the Department notes, the PHA does not include an analysis of the ethanol transport risks, as the number of ethanol deliveries required for the project would be well below the thresholds in *Applying SEPP 33* (AR para 59).
47. The Commission agrees with the Department that the Project can be designed to ensure no unacceptable risk to surrounding land users from fires, explosions or toxic exposures. To ensure that hazards and risks from dangerous goods are appropriately accounted for and reduced, the Commission has imposed conditions B8 to B16, which require the Applicant, among other requirements, to undertake a final hazard analysis, prepare an emergency plan, and conduct a hazard audit within one year of the commencement of operations and every three years after. The Commission has additionally imposed conditions A5 to A10, which set limits on operations for the Project, including in relation to the volume, manner of production, and use and transportation of hydrogen.
48. The Applicant’s bushfire risk assessment was prepared in accordance with the NSW Rural Fire Service’s (**RFS**) document *Planning for Bush Fire Protection* and concluded that the Project could be designed and managed to satisfy the aims and objectives of that guideline (AR para 80). The Commission acknowledges the submissions received concerned about bushfire risk, but notes that the Department has engaged with RFS regarding the Project (refer Table 5 of the AR) and RFS’s advice has been incorporated into the recommended conditions of consent. The Commission is satisfied that, appropriately managed, the Project will not create any additional risk of bushfire, and has imposed conditions B46 to B47 in relation to bushfire mitigation and management. Condition B47 requires the Applicant to prepare a bushfire emergency plan in consultation with the RFS.
49. In relation to aviation safety, the Commission notes that CASA has confirmed in its advice to the Department dated 18 January 2024 that the Project would not pose a risk to the safety of aircraft operations associated with Dubbo Airport. The Applicant has also committed to notifying CASA six months prior to the commencement of operations, to ensure the Aeronautical Information Publication and En Route Supplement Australia information packages for Dubbo Airport notify pilots of the potential plume rise (AR para 85-86). The Commission has imposed a condition binding the Applicant to this commitment through condition A14. Additionally, condition B17 imposed by the Commission requires the Applicant to install a low intensity steady red obstacle light atop one of the power station stacks to signal potential plume to pilots, in accordance with CASA’s recommendations.
50. Subject to the imposed conditions, the Commission is satisfied that the Project will not generate significant hazards and risks for the Site and surrounding area, and that it can be safely and appropriately managed according to the applicable guidelines and agency advice.

5.2 Air quality and greenhouse gas emissions

5.2.1 Air quality

51. During operations, the Project would produce a range of air pollutants, including particulate matter, nitrous oxides, volatile organic compounds, carbon monoxide, sulphur dioxide and greenhouse gas (**GHG**) emissions (AR para 93).

52. As part of its EIS, the Applicant submitted an air quality impact assessment (**AQIA**), dated April 2023, prepared in accordance with the Approved Methods. The AQIA modelled six emission scenarios and their impacts on representative residential receivers, assuming the use of either 100% natural gas or 100% biofuel, and with different stack heights and exhaust parameters. As the Department note, blending with up to 25% hydrogen would not significantly change the emissions profile, and the AQIA's modelling was conservative in that it assumed operation of the power station 100% of the time, rather than its actual proposed operation as a peaking power station for around 12% of the year (AR para 95 and 97).
53. The Department sought additional information from the Applicant in relation to the AQIA's methodology as part of its assessment process. As part of its RtS and in response to the EPA's concerns, the Applicant also clarified that that the Project would only be operated with power station stacks that comply with the required point source discharge limits under the *Protection of the Environment Operation (Clean Air) Regulation 2021 (Clean Air Regulation)* (AR para 112).
54. The Applicant has, however, not yet made a final decision on the exact type and configuration of the turbines to be used in the power station, with the two prospective options being a two-unit dual fuel (biodiesel and gas) and a one unit gas turbine only configuration (refer Transcript of Applicant Meeting with Commission, 16 April 2024 and AR para 114).
55. In line with the Department and the EPA's recommendations, the Commission has imposed condition B4 requiring the Applicant to prepare a revised AQIA for the final power station design. The revised AQIA will need to verify that the emissions profile for the final design would comply with the Approved Methods and the Clean Air Regulation. The revised AQIA must also be prepared prior to the commencement of construction, in consultation with the EPA, and to the satisfaction of the Planning Secretary.
56. Noting that the Applicant's modelling predicts that the Project will comply with the relevant criteria in the Approved Methods for particulate matter, nitrous oxides, volatile organic compounds, carbon monoxide, and sulphur dioxide concentrations as well as the Applicant's detailed responses on air pollutants to the Department's requests for additional information, the Commission is satisfied that, subject to the imposed conditions, the Project will not generate unmanageable or significant adverse air quality impacts.

5.2.2 Greenhouse gas emissions

57. The Project would generate up to 37.6 kilotonnes of carbon dioxide equivalent per year (inclusive of Scope 1, 2 and 3 emissions) (AR para 118).
58. As the Department notes, Scope 1 emissions would be the largest, with the upper end of the range in Scope 1 GHG emissions when the Project is operating with 100% natural gas, with the lower estimate assuming that 50% of the fuel supply is sourced from biofuels (AR para 119 to 120).
59. The proposed eventual transition to the use of biofuels and/or hydrogen in the power station is the key means by which the Applicant proposes to reduce the Project's GHG emissions.
60. The Applicant has advised the Department and the Commission that this transition will occur when it becomes technically and commercially viable to do so, as currently the ability to source sufficient quantities of eligible biofuels to generate power is uncertain and using hydrogen is not yet economically cost effective (AR para 121).

61. The Applicant has also advised that the power station cannot currently be designed to handle more than a 25% hydrogen blend in its fuel mix “*because the power generation technology currently available in the market is not capable of operating at higher concentrations or the equipment manufacturer will not guarantee the operation of the unit at higher concentrations*” (Applicant’s response to Department’s request for additional information, dated 15 December 2023, page 2).
62. The Commission acknowledges that submissions raised concern regarding the efficiency and feasibility of hydrogen production and usage. The Commission notes that the NSW Hydrogen Strategy has a key focus on actions to facilitate technological advancement and efficiency improvements.
63. The Commission also acknowledges that concerns were raised in submissions relating to the environmental performance of the power station. As the Department notes, alternative firming power technologies such as batteries and pumped hydro are impacted by their own efficiency and feasibility issues (AR para 126). Further, the Project would not compromise the NSW Government’s recently legislated targets set out under the *Climate Change (Net Zero Future) Act 2023* – assuming only natural gas is used, the emissions from the Project would be around 0.03% of estimated gross NSW GHG emissions in 2030 and 0.07% by 2035 (AR para 127 and 129).
64. The Commission agrees with the Department that, even when operating on natural gas, the Project would provide a societal benefit by supporting the transition to renewable energy, and would contribute to meeting the NSW objectives set out in the NSW Electricity Infrastructure Roadmap, be consistent with the NSW Hydrogen Strategy, and support development of the Central-West Orana REZ by providing system security in the form of grid firming (AR para 125).
65. The Commission has imposed conditions which seek to minimise the Project’s GHG emissions. Condition B7 requires the Applicant to prepare a power station fuel report within 6 months of the commencement of operation and every 3 years thereafter, including a review of the feasibility of increasing the hydrogen and/or biofuels concentrations in the power station fuel mix. The Applicant would also be required to prepare and implement a Climate Change Mitigation Plan and demonstrate measures to reduce GHG emissions throughout the project lifecycle in accordance with the requirements of the EPL issued for the Site by the EPA.
66. Subject to the imposed conditions, the Commission is satisfied that the Project’s predicted GHG emissions are consistent with the applicable State and Federal policy settings and legislative requirements and will not lead to adverse impacts.

5.3 Other Issues

67. The Commission agrees with the Department’s assessment of other issues (biodiversity, heritage, noise and vibration, visual, water, land, transport, social, economic, and waste) at Table 6 of the AR. Subject to the imposed conditions relevant to each of these issues, the Commission is satisfied that the Project’s impacts are minimal and capable of being appropriately monitored and managed.
68. In addition, the Commission notes that Council did not raise any concerns regarding these issues, with the exception of its aforementioned concerns about accommodation and housing impacts (refer section 4.2.1 of this Statement of Reasons).

69. The Commission is aware that NSW Energy Corporation operates a housing and accommodation working group, which is currently undertaking cumulative impact studies for the NSW REZs intended to inform future projects. The Commission has imposed condition B45, which requires the Applicant to prepare a construction workforce accommodation strategy prior to the commencement of construction and in consultation with Council. Additionally, the strategy must consider the cumulative impacts associated with other SSD projects in the area, and if there any disputes about the strategy, Council or the Applicant can refer the matter to the Planning Secretary for resolution.
70. In relation to noise, the Commission accepts the Department's response in its comment on the proposed conditions, as well as the advice of the EPA to the Department dated 9 May 2024. In line with the EPA's recommendations, the Commission has imposed noise limits that are consistent with the EPA's approach to setting noise limits, the predictions of the Applicant's Noise Impact Assessment (dated March 2023), and the NPfI's requirements. The imposed conditions will ensure that operational noise requirements are met and the impacts of the Project on residential receivers are minimised. Condition B21 requires that noise generated by the development must not exceed the specified criteria at receivers R1-R6, and B22 requires that noise generated by the development must be monitored and measured in accordance with the requirements of the NPfI.
71. The Commission acknowledges the concerns regarding traffic and transport impacts expressed by one submitter. The Commission notes that the Site's surrounding road network, including the Golden Highway, Yarrandale Road, and Purvis Lane, are all designated B-double route and listed as oversize/overmass approved roads by Transport for NSW (AR Table 6). Consequently, the Commission considers traffic and transport impacts from the Project would be minor and capable of being managed subject to the imposed conditions, particularly condition B39, which requires preparation of a Traffic Management Plan for the development, including details of the measures that would be implemented to minimise traffic safety issues and disruption to local users of the transport route/s, including school buses.

6. The Commission's Findings and Determination

72. The views of the community were expressed through public submissions and comments received (as part of exhibition and as part of the Commission's determination process). The Commission considered all of these views as part of making its decision.
73. The Commission has considered the Material before it as set out in section 3.1 of this report. Based on its consideration of the Material, the Commission finds that the Project should be approved subject to conditions of consent for the following reasons:
- the Project is consistent with the existing strategic planning and energy framework as it will deliver a firming power station that will assist in NSW's transition away from traditional coal and gas fired power generation to renewable energy generation, and will provided security to the NSW electricity grid when the supply of electricity from other sources (particularly intermittent sources such as wind and solar power) is insufficient to meet demand;
 - the Site is a suitable site for electricity generation given its location within the Central-West Orana REZ and an existing heavy industrial area of Dubbo, proximity to existing gas and electricity networks, and access to the regional road network including heavy vehicle routes;

- the use of the Site for the purpose of electricity generation is an orderly and economic use and development of the land and consistent with the relevant EPIs, including the Planning Systems SEPP, Transport and Infrastructure SEPP, and DLEP 2022;
 - adverse amenity impacts on nearby receivers – including visual, noise and air quality impacts – are capable of being minimised as far as practicable, and will be further managed and mitigated by the imposed conditions of consent;
 - hazards and risks associated with the Project, including explosion, toxicity, bushfire and aviation safety, can be suitably controlled and will be managed and mitigated through plans and reporting required by the imposed conditions of consent;
 - the Project's predicted GHG emissions are consistent with the applicable State and Federal policy settings and legislative requirements and will not lead to adverse impacts
 - the Project's infrastructure, although initially operating on natural gas, is capable of being transitioned to operating on hydrogen and/or biofuels in the future when this becomes more economically viable, and the Applicant will be required to review and report on the feasibility of increasing the concentrations of hydrogen and/or biofuels in the Project's fuel mix every three years under a condition of consent;
 - the Project will generate direct and indirect benefits to the local community, including through the proposed VPA;
 - the Project is capable of being decommissioned and the Site appropriately rehabilitated;
 - the Project is consistent with the ESD principles including in relation to environmental, economic, and social considerations;
 - the Project is in accordance with the Objects of the EP&A Act; and
 - the Project is in the public interest.
74. For the reasons set out in paragraph 73 above, the Commission has determined that the consent should be approved subject to conditions. These conditions are designed to:
- prevent, minimise and/or offset adverse environmental impacts;
 - set standards and performance measures for acceptable environmental performance
 - require regular monitoring and reporting; and
 - provide for the on-going environmental management of the development.
75. The reasons for the Decision are given in the Statement of Reasons for Decision dated 13 May 2024.



Ken Kanofski (Chair)
Member of the Commission



Michael Chilcott
Member of the Commission



Andrew Mills
Member of the Commission



New South Wales Government
Independent Planning Commission

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