



New South Wales Government
Independent Planning Commission

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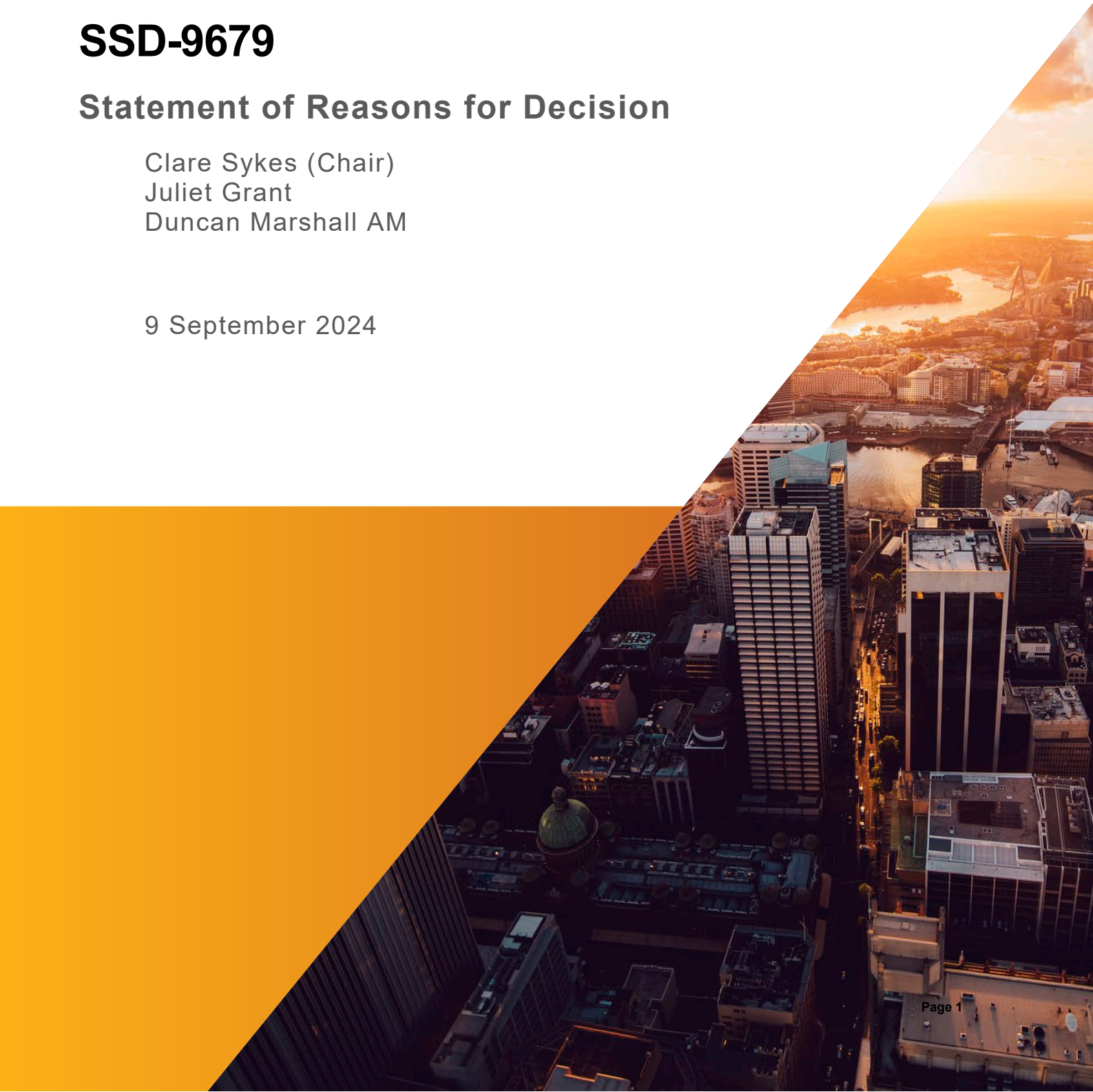
Hills of Gold Wind Farm

SSD-9679

Statement of Reasons for Decision

Clare Sykes (Chair)
Juliet Grant
Duncan Marshall AM

9 September 2024



Executive Summary

Hills of Gold Wind Farm Pty Ltd, a project entity owned by ENGIE Australia & New Zealand (the Applicant) has sought consent for the development of a 384 megawatt (MW) wind farm with 64 turbines, a 100 MW/400MWh battery energy storage system, 330 kilovolt transmission line and other associated ancillary infrastructure known as Hills of Gold Wind Farm (SSD-9679) (the Project). The Project site (Site) is located approximately 60 kilometres (km) southeast of Tamworth, near Nundle, Hanging Rock and Crawney, within the local government areas of Tamworth Regional, Upper Hunter Shire and Liverpool Plains Shire.

The Project represents an investment of approximately \$826.4 million and is proposed to generate up to 211 construction jobs and 28 operational jobs as well as powering up to 150,000 homes (64 turbine Project).

The NSW Independent Planning Commission (the Commission) is the consent authority for the Project because more than 50 public objections were received by the Department of Planning, Housing and Infrastructure (the Department), and as Tamworth Regional Council objected to the Project.

Commissioners Clare Sykes (Chair), Juliet Grant and Duncan Marshall AM were appointed to constitute the Panel determining the Application. As part of its determination process, the Commission met with representatives of the Applicant, the Department, Tamworth Regional Council, Upper Hunter Shire Council, Liverpool Plains Shire Council and Muswellbrook Shire Council. The Commission also undertook a site inspection, locality tour, and visits to a selection of neighbouring properties.

A Public Meeting was held on 1 and 2 February 2024 where the Commission heard from 65 speakers, including community members and local stakeholders. The Commission also received 431 unique written submissions on the Application during the first submission period and 214 unique written submissions during the second submission period.

The Commission acknowledges the widespread and deeply held views in the community about the Project. Key issues raised in submissions and which are the subject of findings in this Statement of Reasons for Decision relate to the scope of the application, visual impacts, traffic and transport, biodiversity, socio-economic impacts, noise and vibration, and decommissioning and rehabilitation.

After careful consideration, the Commission has determined that consent should be granted to the Application for a maximum of 62 turbines, subject to conditions.

The Commission finds that the Site is suitable for renewable energy development given its proximity to existing electricity transmission networks, topography, wind resources, access to the regional road network and avoidance of major environmental constraints.

The Commission finds that the Project is consistent with both the Australian and NSW Government's strategic planning and energy frameworks, including the Australian Energy Market Operator's *2022 Integrated System Plan*, the *NSW Climate Change Policy Framework 2016*, and the *NSW Electricity Infrastructure Roadmap*. The 62 turbine Project would deliver up to 372 MW of renewable energy and contribute to the nation's transition to lower emissions energy generation.

The Commission is satisfied that the Project meets the relevant statutory requirements and is in accordance with the Objects of the EP&A Act and the public interest.

The Commission has imposed conditions which seek to prevent, minimise and/or offset potential adverse impacts of the Project and ensure appropriate ongoing monitoring and management of any residual impacts. The Applicant will be required to prepare and implement comprehensive management plans and strategies, consult with the community, and report on mitigation outcomes on an ongoing basis.

The conditions respond to concerns raised by the community and stakeholders during the Commission's consideration of the Project and will help to strengthen the environmental and social management of the development. In making its decision, the Commission has considered all of the material provided by the Applicant and the Department, and has taken into account the views of the community.

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

64 turbine Project	Construction and operation of up to 64 wind turbines and associated infrastructure, as proposed by the Applicant's amended Application
62 turbine Project	Construction and operation of up to 62 wind turbines and associated infrastructure, as recommended by the Department in its Additional Material
47 turbine Project	Construction and operation of up to 47 wind turbines and associated infrastructure, as recommended by the Department in its Assessment Report
ACCS	Australian Government's Annual Climate Change Statement 2023
Applicant	Hills of Gold Wind Farm Pty Ltd (Project entity owned by ENGIE Australia & New Zealand)
Applicant submission	Applicant's submission to the Commission, dated 12 and 15 February 2024, and its associated attachments
Application	Hills of Gold Wind Farm (SSD-9679)
AR para	Paragraph of the Department's Assessment Report
BBAMP	Bird and Bat Adaptive Management Plan
BC Act	<i>Biodiversity Conservation Act 2016</i>
BCS	Biodiversity Conservation and Science Group within NSW DCCEEW
Biodiversity Offsets Scheme	NSW Biodiversity Offsets Policy for Major Projects (NSW Office of Environment and Heritage, 2014)
BESS	Battery energy storage system
Box-Gum Woodland	White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland
CASA	Civil Aviation Safety Authority
CCC	Community Consultative Committee
CCPF	NSW Climate Change Policy Framework
CIV	Capital investment value
Commission	Independent Planning Commission of NSW
CPI	Consumer Price Index
DCCEEW	NSW Department of Climate Change, Energy, the Environment and Water
Department	NSW Department of Planning, Housing and Infrastructure (formerly NSW Department of Planning and Environment)
Department's AR	Department's Assessment Report, dated 12 December 2023
Department's Additional Material or Additional Material	Material forming part of the Department's Response to the Commission's Request for Information, dated 24 June 2024, comprising: <ul style="list-style-type: none"> the Department's response to questions from the Commission, dated 24 June 2024; the Department's request to the Applicant for further information, dated 22 February 2024; the Applicant's response to the Department, dated 27 March 2024; advice from the Independent Expert Advisory Panel for Energy Transition (IEAPET), dated 14 June 2024; and an updated recommended instrument of consent
Department's assessment	The Department's assessment as detailed in the Department's AR (dated 12 December 2023) and the Additional Material (dated 24 June 2024)
DPIRD	NSW Department of Primary Industries and Regional Development
Draft Guideline 2023	<i>Draft Wind Energy Guideline 2023</i> (NSW Department of Planning and Environment), including supporting attachments <i>Technical Supplement for Landscape and Visual Impact Assessment</i> and <i>Technical Supplement for Noise Assessment</i>
EMF	Electric and magnetic fields
EnergyCo	Energy Corporation of NSW
EII Act	<i>Electricity Infrastructure Investment Act 2020</i>

EIS	The Applicant's Environmental Impact Statement, dated 18 December 2020, and its accompanying appendices
EPA	Environment Protection Authority
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwealth)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPI	Environmental Planning Instrument
EPL	Environmental Protection Licence
ES	NSW Electricity Strategy 2019
ESD	Ecologically Sustainable Development
First Amendment Report	The Applicant's First Amendment Report, dated 20 December 2021, and its accompanying appendices
First Submission Period	The Commission's submission period between 18 December 2023 and 5pm Australian Eastern Daylight Time, Thursday 15 February 2024.
Framework	NSW Wind Energy Framework
Guideline 2016	<i>Wind Energy Guideline 2016</i> (NSW Department of Planning and Environment), including supporting technical bulletins <i>Wind Energy: Visual Assessment Bulletin</i> and <i>Wind Energy: Noise Assessment Bulletin</i>
ha	Hectare(s)
ICNG	Interim Construction Noise Guideline (NSW Department of Environment and Climate Change, 2009)
IEAPET	Independent Expert Advisory Panel for Energy Transition
IEAPET advice	IEAPET's advice to the Department in its report <i>Hills of Gold Wind Farm Proposal – Advice on energy production cost impacts under turbine configuration scenarios</i> , dated 14 June 2024
ISP	2022 Integrated System Plan (Australian Energy Market Operator)
LEP	Local Environmental Plan
LGA	Local Government Area
LVIA	The Applicant's Landscape and Visual Impact Assessment Rev D, dated 16 November 2020, prepared by Moir Landscape Architecture
LVIA Second Addendum	The Applicant's LVIA Second Addendum Report Rev E, dated 7 November 2022, prepared by Moir Landscape Architecture
km	Kilometre(s)
m	Metre(s)
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
MWh	Megawatt hour
NASAG Guideline	<i>National Airports Safeguarding Framework Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers</i> (National Airports Safeguarding Advisory Group, 2012)
NEM	National Electricity Market
Noise Bulletin	<i>Wind Energy: Noise Assessment Bulletin</i> (NSW Department of Planning and Environment, December 2016)
Non-associated residence	Residence directly impacted by the Project which is not subject to an agreement with the Applicant
NPWS	National Parks and Wildlife Service
NVA	The Applicant's Noise and Vibration Assessment, dated October 2020, prepared by Sonus
NZP	Net Zero Plan Stage 1: 2020-2030
OSOM	Oversize and/or overmass vehicle
OHD	O'Hanlon Design Landscape Architects
OHD review	OHD's <i>Independent Expert Review</i> of the Applicant's LVIA, dated 29 November 2023 and forming Appendix K to the Department's AR
PAD	Potential archaeological deposit

para	Paragraph
Planning Systems SEPP	<i>State Environmental Planning Policy (Planning Systems) 2021</i>
PSM	Pell Sullivan Meynink
Revised BDAR	Applicant's Revised Biodiversity Assessment Report, dated 25 May 2023, prepared by Biosis
REZ	Renewable Energy Zone
RFS	NSW Rural Fire Service
Roadmap	NSW Electricity Infrastructure Roadmap (NSW Government, 2020)
SAII	Serious and irreversible impacts
SEARs	Planning Secretary's Environmental Assessment Requirements
Second Amendment Report	The Applicant's Second Amendment Report, dated 7 November 2022, and its accompanying appendices
Second Submission Period	The Commission's submission period between 27 June 2024 and 12pm Australian Eastern Standard Time, Monday 15 July 2024
SEPP	State Environmental Planning Policy
Site	The site as described in Section 2.1
SRD SEPP	<i>State Environmental Planning Policy (State and Regional Development) 2011</i>
SSD	State Significant Development
TIS	NSW Government's Transmission Infrastructure Strategy
TMP	Traffic Management Plan
Transport and Infrastructure SEPP	<i>State Environmental Planning Policy (Transport and Infrastructure) 2021</i>
TTA	The Applicant's Traffic and Transport Assessment, dated 12 November 2020, prepared by The Transport Planning Partnership
Vibration Guideline	Assessing Vibration: A Technical Guideline (NSW Department of Environment and Conservation, 2006)
VPA	Voluntary Planning Agreement
Water Group	Water Group within NSW DCCEEW

1. Introduction

1. On 13 December 2023, the NSW Department of Planning, Housing and Infrastructure (the **Department**) referred State significant development (**SSD**) application SSD-9679 (**Application**) from Hills of Gold Wind Farm Pty Ltd, a project entity owned by ENGIE Australia & New Zealand (the **Applicant**), to the NSW Independent Planning Commission (**Commission**) for determination.
2. The Application seeks consent under section 4.38 of the *Environmental Planning and Assessment Act 1979* (**EP&A Act**) for the Hills of Gold Wind Farm (the **64 turbine Project**) located within the Tamworth Regional Council, Upper Hunter Shire Council and Liverpool Plains Shire Council Local Government Areas (**LGAs**).
3. The Application constitutes SSD under section 4.36 of the EP&A Act and under section 20 of Schedule 1 of the *State Environmental Planning Policy (Planning Systems) 2021* (**Planning Systems SEPP**) (previously clause 20 of Schedule 1 of *State Environmental Planning Policy (State and Regional Development) 2011* (**SRD SEPP**), which was in force at the time of lodgement). The development meets the criteria for SSD because it is for the purpose of electricity generating works with a capital investment value (**CIV**) of more than \$30 million (\$826.4 million).
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 more than 50 public submissions were made to the Department by way of objection, and Tamworth Regional Council objected to the 64 turbine Project during exhibition.
5. Professor Neil Menzies, as the nominee of the-then Chair of the Commission, appointed Clare Sykes (Chair), Juliet Grant and Duncan Marshall AM to constitute the Panel for the purpose of exercising the Commission's functions with respect to the Application.
6. The Department provided its assessment to the Commission (**Department's assessment**), which included:
 - its Assessment Report (**AR**) and recommended conditions of consent for a maximum of 47 wind turbines on 13 December 2023; and
 - Additional information in response to questions from the Commission (**Additional Material**) and amended recommended conditions of consent for a maximum of 62 wind turbines on 24 June 2024.
7. The Department's assessment concluded that the site is suitable for the proposed wind farm, and that the 62 turbine Project would result in benefits to the State of NSW, is in the public interest and is approvable subject to recommended conditions of consent.

2. The Application

2.1 Site and Locality

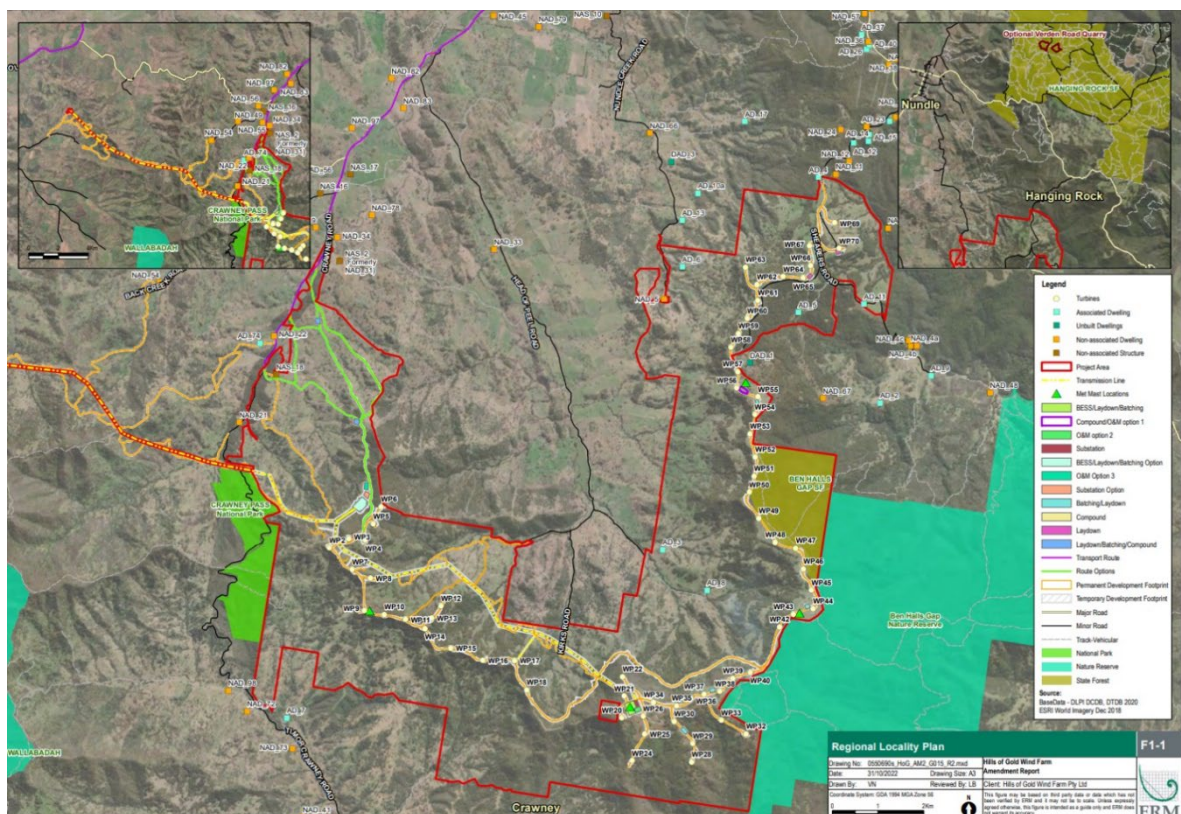
8. The Site is located approximately 60 kilometres (**km**) southeast of Tamworth, near the localities of Nundle, Hanging Rock and Crawney. Per paragraph (**para**) 8 of the Department's AR, the Site is 5 km south of Hanging Rock, 8 km south-east of the village of Nundle and immediately north of Crawney (refer **Figure 1** below). These localities are a mix of small villages and clusters of rural properties.

Figure 1 – Regional context (Source: AR Figure 1)



9. The Site is located 15 km southwest of the New England Renewable Energy Zone (**REZ**) (AR para 6). The Site itself is not located within a REZ, however by being near the New England and Hunter Valley REZs, the Site is supported by access to infrastructure that will be coordinated by the NSW Government (including the Energy Corporation of NSW (**EnergyCo**)) to support renewable energy generation in the region (AR para 82).
10. There are five State significant renewable energy projects within 60 km of the Site, the nearest being 30 km from the Site (AR para 15). The details of these projects are provided at Table 2 of the Department's AR and their locations in relation to the Site are illustrated in **Figure 1**.

Figure 2 – Site in context of regional locality (Source: Amendment Report No.2, dated 7 Nov 2022)



11. The Site is defined by the 'project area' boundary illustrated in **Figure 2**, comprising 8,732 hectares (**ha**) in total area, with a 447 ha development corridor mostly along the ridge line. The Site has been extensively cleared and is currently used for grazing purposes, with intact native vegetation mostly located on slopes leading up to the ridgeline. The Site is bordered by the Ben Halls Gap Nature Reserve and Crawney Pass National Park to the east and west respectively (AR para 9).
12. The Site is primarily zoned RU1 Primary Production with some proposed access roads traversing the RU3 Forestry zone and C2 Environmental Conservation zone under the Tamworth Regional Local Environmental Plan (**LEP**) 2010. Some portions of the Site are also zoned RU1 Primary Production under the Upper Hunter LEP 2013 and Liverpool Plains LEP 2011. Electricity generating works are permitted with consent in the RU1 Primary Production zone in all instruments. Land use permissibility relating to the RU3 Forestry zone and C2 Environmental Conservation zone are discussed further at Section 3.3.

2.2 The Project

13. The Applicant originally sought consent for up to 70 wind turbines on the Site, before reducing this to a maximum of 65 and then 64 wind turbines in subsequent Application amendments (see Section 3.3.2 below for detail relating to Application amendments).
14. The Application, as amended, seeks consent for up to 64 wind turbines to be located between 1,080 metres (**m**) and 1,410 m AHD (Australian Height Datum), with a maximum blade tip height of 230 m (AR paras 2 and 9). The Applicant also proposes a centralised battery energy storage system (**BESS**) with a capacity of up to 100 megawatts (**MW**) / 400 MW hours (**MWh**), 13.5 km of overhead transmission lines, 15 km of internal transmission lines, 90 km of underground transmission lines, ancillary infrastructure and supporting roadworks (AR Table 1).
15. Up 211 jobs are projected to be generated from the 64 turbine Project during an anticipated construction timeframe of approximately 24 months with a 6–14 month peak, and 28 ongoing operational jobs (AR Table 1). Further detail about the main aspects of the 64 turbine Project is set out in Table 1 of the AR.

2.3 The Department's Recommendation

16. The Department, in its AR provided to the Commission on 13 December 2023, recommended that development consent not be granted to 17 turbines (AR Table 13) of the 64 turbine Project as proposed by the Application as amended. The Department recommended not granting consent for these 17 turbines in order to reduce visual and noise impacts on nearby non-associated residential receivers, and because of biodiversity impacts (AR Executive Summary). This recommendation lowers the total number of wind turbines to up to 47 and reduces the total electricity generation potential from approximately 390 MW to 282 MW (AR Table 19).
17. The Application's referral to the Commission on 13 December 2023 included the Department's AR and its recommendation to grant consent of up to 47 turbines (the **47 turbine Project**).
18. The Department revised its recommendation to the Commission on 24 June (Additional Material) following a re-assessment of the visual and biodiversity impacts of the previously excluded 17 turbines and advice from the Independent Expert Advisory Panel for Energy Transition (**IEAPET**) that a 47 turbine Project (without the aforementioned 17 turbines) would be commercially unviable. The revised recommendation was to grant consent for up to 62 turbines (the **62 turbine Project**), and to not grant consent to two turbines for which the Applicant had sought development consent.
19. The Department considers it would be in the public interest to approve a 62 turbine Project to provide approximately 372 MW of renewable energy to the State of NSW, with strict conditions of consent to mitigate the impacts of the Project, including visual, noise and biodiversity impacts.
20. **Table 1** provides a timeline overview of the Application, outlining the Applicant's proposed number of turbines and the Department's recommended number of turbines.

Table 1 – Summary of proposed and recommended maximum number of turbines

Applicant proposal or Department recommendation	Maximum number of turbines proposed / recommended	Approximate generating capacity	Turbines proposed / recommended for removal (and primary reason for removal)
Applicant proposal <i>Environmental Impact Statement</i> , dated 18 December 2020 (EIS)	70	420 MW	NA
Applicant proposal <i>First Amendment Report</i> , dated 20 December 2021	65	390 MW	<ol style="list-style-type: none"> 1. T1 (biodiversity) 2. T19 (biodiversity) 3. T23 (biodiversity) 4. T27 (biodiversity) 5. T31 (biodiversity)
Applicant proposal <i>Second Amendment Report</i> , dated 7 November 2022	64 *number of wind turbines assessed by the Department	384 MW	T41 (biodiversity; bushfire)
Department recommendation AR, dated December 2023	47 *recommended removal of 17 wind turbines via condition	282 MW	<ol style="list-style-type: none"> 1. T9 (visual) 2. T10 (visual) 3. T11 (visual) 4. T24 (biodiversity; visual) 5. T28 (biodiversity) 6. T42 (biodiversity) 7. T53 (noise; visual) 8. T54 (noise; visual) 9. T55 (noise; visual) 10. T56 (noise; visual) 11. T57 (noise; visual) 12. T58 (noise; visual) 13. T59 (noise; visual) 14. T60 (noise; visual) 15. T61 (noise; visual) 16. T62 (visual) 17. T63 (visual)
Applicant proposal <i>Applicant's submission to the Commission</i> , dated 12 and 15 February 2024 (Applicant submission)	62 *seeks to reinstate 15 wind turbines recommended for removal by the Department	372 MW	Accepts the Department's recommended removal of: <ol style="list-style-type: none"> 1. T24 (biodiversity; visual) 2. T42 (biodiversity)
Department recommendation <i>Additional Material</i> , dated 24 June 2024	62 *recommends removal of 2 turbines via condition	372 MW	<ol style="list-style-type: none"> 1. T24 (biodiversity; visual) 2. T42 (biodiversity)

3. The Commission's Consideration

3.1 Material Considered by the Commission

21. In this determination, the Commission has considered the material outlined below (**Material**):

Material considered as part of the Department's assessment

- the Planning Secretary's Environmental Assessment Requirements (**SEARs**) issued by the Department, dated 22 November 2018, and Supplementary SEARs issued by the Department, undated;
- the following information provided by the Applicant to the Department for its assessment:
 - the EIS, dated 18 December 2020, and its accompanying appendices;
 - the First Response to Submissions Report, dated 20 December 2021, and its accompanying appendices;
 - the Second Response to Submissions Report, dated 28 February 2023, and its accompanying appendices;
 - the First Amendment Report, dated 20 December 2021, and its accompanying appendices; and
 - the Second Amendment Report dated 7 November 2022 (**Second Amendment Report**), and its accompanying appendices;
- all public submissions on the EIS and the Second Amendment Report made to the Department during public exhibition;
- all Government Agency advice to the Department; and
- all requests made by the Department for additional information as part of its assessment, and the responses received.

Department's referral to the Commission and recommendations

All referral documents from the Department to the Commission, including:

- its referral letter dated 12 December 2023;
- its AR, dated December 2023, and its accompanying appendices; and
- its recommended Conditions of Consent.

All other material provided to the Commission

- comments and presentation material at meetings with the Department, Applicant, and local Councils, as referenced in **Table 3** below;
- all observations and material gathered at the Site Inspection, Locality Tour, and Neighbouring site visits on 29, 30 and 31 January 2024;
- all comments made to the Commission and material presented at the Public Meeting;
- Crown Lands consent, dated 8 April 2024;
- the Department's response to the Commission's Request for Information, dated 24 June 2024 (**Additional Material**), as described in Section 4.3.2:
 - the Department's response to questions from the Commission, dated 24 June 2024;
 - the Department's request to the Applicant for further information, dated 22 February 2024;
 - the Applicant's response to the Department, dated 27 March 2024;

- advice from the Independent Expert Advisory Panel for Energy Transition, dated 14 June 2024 (**IEAPET advice**); and
- an updated recommended instrument of consent.
- all written comments received by the Commission in the following submission periods:
 - up until 5pm, Thursday 15 February 2024 (**First Submission Period**);
 - up until 12pm, Monday 15 July 2024 (**Second Submission Period**); and
 - late submissions accepted by the Commission;
- the Department's advice on the feasibility and workability of proposed conditions, dated 21 August 2024;
- the Department's response to the Commission's request for clarifications regarding the proposed conditions, dated 28 August 2024; and
- all other correspondence to and from the Commission, as published on the Commission's website.

3.2 Strategic Context

22. The Commission has considered the strategic planning policies and guidelines relevant to the Site and the Project. The Commission finds that the Project is consistent with both the Commonwealth and NSW Government's strategic planning frameworks as, with conditions imposed, it would generate approximately 372 MW of renewable energy based on the Department's recommendation for 62 turbines and will assist in the Nation's transition to lower emissions energy generation. In addition, in accordance with the Department's AR, the Project would generate economic benefits to the local and regional community, including up to 211 construction jobs and 28 operational jobs, power approximately 150,000 homes (based on the 64 turbine Project), and provide flow-on benefits to the local and regional economies through expenditure and procurement of goods and services.

3.2.1 Energy Context

Australia's Long-Term Emissions Reduction Plan 2021

23. The Commonwealth Government's *Long-Term Emissions Reduction Plan 2021* states that "an increased share of renewables will be the foundation for a near zero emission grid by 2050" (page 45), that "*energy storage technologies are essential for Australia to shift to lower emission electricity systems*" and that "*the challenge is to ensure our electricity system remains secure, reliable and affordable as the share of variable renewables grows*" (pages 45 and 52).

Annual Climate Change Statement 2023

24. The Australian Government's Annual Climate Change Statement 2023 (**ACCS**) makes commitments about achieving net zero by 2050, noting that the "*Climate Change Act 2022 legislated our emissions reduction targets of 43% below 2005 levels by 2030 and net zero by 2050*" (page 5). The ACCS states "*emissions need to decrease at a faster rate than they have historically to reach Australia's 2030 target*" and that "*work has continued to ensure we meet our commitment to ensuring reliability, affordability and emissions reduction by achieving 82% renewables in Australia's electricity grids*" (page 5). As the largest emissions source in the Australian economy, "*decarbonising the electricity sector will be vital to meeting our emissions reduction targets*" (page 22).

Australian Energy Market Operator's 2024 Integrated System Plan

25. The Australian Energy Market Operator's 2024 *Integrated System Plan (ISP)* is a comprehensive road map for the National Electricity Market (**NEM**). The ISP *"is a plan for investment in the NEM to ensure a reliable and secure power system through Australia's transition to a net zero economy"* (page 3). The ISP states that:

"As coal-fired power stations retire, renewable energy connected with transmission and distribution, firmed with storage, and backed up by gas-powered generation is the lowest-cost way to supply electricity to homes and businesses through Australia's transition to a net zero economy. Investment is needed urgently. New generation, storage and firming must be in place before coal power stations retire, and to meet Australia's growing demand for electricity" (page 3).

NSW Climate Change Policy Framework 2016

26. The NSW Climate Change Policy Framework 2016 (**CCPF**) describes the NSW Government's objective to achieve net zero emissions by 2050 and aims to *"maximise the economic, social and environmental wellbeing of NSW in the context of a changing climate and current and emerging international and national policy settings and actions to address climate change"* (page 1).

NSW Net Zero Plan Stage 1: 2020 – 2030 and Implementation update 2022

27. The *Net Zero Plan Stage 1: 2020-2030 (NZIP)* outlines the NSW Government's objective *"to achieve net zero emissions by 2050"* (page 4). The 2022 implementation update on the NZIP provides details of the NSW Government's policies, programs and progress in achieving the NZIP priorities.

NSW Electricity Infrastructure 2020

28. In November 2020, the NSW Government released the NSW Electricity Infrastructure Roadmap (**Roadmap**), which is NSW's 20-year plan to transform the electricity system by coordinating investment in transmission, generation, storage and upgrading infrastructure as NSW's ageing coal-fired power plants are retired. The Roadmap is enabled by the *Electricity Infrastructure Investment Act 2020 (EII Act)*.

Transmission Infrastructure Strategy 2018

29. The NSW Government's Transmission Infrastructure Strategy (**TIS**) *"forms part of the government's broader plan to make energy more affordable, secure investment in new power stations and network infrastructure; and ensure new technologies deliver benefits for consumers"* (page 5). The TIS notes that the State has a substantial investment in new wind, solar, gas and generator upgrade projects and that *"these new projects will provide the cheapest available new energy to run our households, businesses, schools and essential services"* (page 6).

Electricity Strategy 2019

30. Released by the NSW Government in 2019, the *NSW Electricity Strategy (ES)* is a *"plan for a reliable, affordable and sustainable electricity future that supports a growing economy"* (page 1). The ES notes that renewable energy is *"now the most economic form of new generation, with a mix of wind and solar firmed with gas, batteries and pumped hydro expected to be the most economic form of reliable electricity"* (page 11). The ES also seeks to prioritise renewable energy zones to diversify the State's energy mix and provide affordable electricity supply (page 20).

3.2.2 NSW Wind Energy Framework

31. The NSW Wind Energy Framework (the **Framework**) was originally released by the NSW Government in December 2016 to provide “*greater clarity, consistency and transparency for industry and the community regarding assessment and decision-making on wind energy projects*” in NSW (AR para 14). The key documents comprising the Framework are the *Wind Energy Guideline 2016 (Guideline 2016)*, and its supporting technical bulletins *Wind Energy: Visual Assessment Bulletin* and the *Wind Energy: Noise Assessment Bulletin*. The Department states that “*the Framework provides a merit-based approach to the assessment of wind energy projects, which is focused on the issues unique to wind energy, particularly visual and noise impacts*” (AR para 20).
32. The Department is currently developing a new Energy Policy Framework, which includes the draft *Wind Energy Guideline 2023 (Draft Guideline 2023)*, an updated version of Guideline 2016 (AR para 22). The Draft Guideline 2023 includes the supporting attachments *Technical Supplement for Landscape and Visual Impact Assessment* and *Technical Supplement for Noise Assessment*.
33. The new Energy Policy Framework is currently in draft form having been publicly exhibited from 14 November 2023 to 29 January 2024 and is in the process of being finalised.

Draft Wind Energy Guideline 2023

34. Although the new Energy Policy Framework does not strictly apply to this Project (AR para 22), the Department has adopted the approach prescribed in Draft Guideline 2023 to quantify visual magnitude in its assessment of the Project against the visual performance objectives set out in the existing *Wind Energy: Visual Assessment Bulletin* of Guideline 2016 (Additional Material, section 2.2).
35. The Commission has considered the Department’s application of both the Draft Guideline 2023 and existing Framework, including the existing Guideline 2016 and supporting *Wind Energy: Visual Assessment Bulletin*, in its determination of the Application.

3.2.3 Renewable Energy Zone

36. The NSW Government has declared five ‘renewable energy zones’ (**REZs**) across the State to help expand transmission and generation capabilities in strategic areas. This is to support appropriate renewable energy development in areas that are close to transmission and distribution infrastructure.
37. The Project is not located in a REZ declared under section 23 of the EII Act, however, it is adjacent to two REZs (New England and Hunter), and as such the Project would have access to the existing electrical grid and infrastructure upgrades (such as roads) coordinated by EnergyCo through the NSW Government (AR para 82) to support the development of those REZs. The Commission notes that the Application predates the establishment of the REZs.

3.2.4 Regional and Local Plans

38. In determining the Application, the Commission has also considered the following regional and local plans:
 - Hunter Regional Plan 2041;
 - Upper Hunter Strategic Regional Land Use Plan;
 - Tamworth Regional Council 2023-2033 Community Strategic Plan;
 - Tamworth Local Strategic Planning Statement 2020;
 - Community Strategic Plan – Upper Hunter 2032;

- Upper Hunter Local Strategic Planning Statement 2020;
 - New England North West Regional Plan 2041;
 - New England North West Strategic Regional Land Use Plan;
 - Liverpool Plains Shire Council Community Strategic Plan 2022-2032; and
 - Liverpool Plains Local Strategic Planning Statement 2040.
39. The Commission considers that the Project is in accordance with the above regional and local strategies which identify renewable energy generation and investment as a future growth opportunity for the region.

3.3 Statutory Context

3.3.1 State significant development

40. The Application is SSD under section 4.36 of the EP&A Act and clause 20 of Schedule 1 of the Planning Systems SEPP (previously clause 20 of Schedule 1 of the SRD SEPP, which was in force at the time of lodgement). 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 because the Application is SSD and more than 50 public submissions objecting to the Project were made to the Department, and Tamworth Regional Council objected to the Project.

3.3.2 Amended Application

41. Following consideration of submissions made to the Department in response to public exhibition of the Project, the Department (as the Commission's delegate) agreed to a request by the Applicant to amend the Application in January 2022 (including removal of five turbines, amendments to the location of three wind turbines and one construction compound, and reductions to the development footprint) and in November 2022 (including upgrading and use of Crawney Road for oversize and/or overmass (**OSOM**) deliveries to the Site, removal of the Devil's Elbow bypass transport option from the Project, removal of one turbine, and revision of transport route options through Nundle). The reasons for the Department's acceptance of the amendments to the Application are set out at para 29 of the Department's AR.
42. The Second Amendment Report and its accompanying appendices were publicly exhibited from November to December 2022.

3.3.3 Permissibility

43. The Site is primarily zoned RU1 Primary Production under the Tamworth Regional LEP 2010, Upper Hunter LEP 2013 and Liverpool Plains LEP 2011, with some proposed access roads traversing the RU3 Forestry zone (as part of Bell Halls Gap State Forest) and C2 Environmental Conservation zone (for Crawney Road access) under the Tamworth Regional LEP 2010 (AR para 30-32).
44. Pursuant to *State Environmental Planning Policy (Transport and Infrastructure) 2021 (Transport and Infrastructure SEPP)*, electricity generating works are permitted with consent on any land in a prescribed rural, industrial or special use zone, including land zoned RU1 Primary Production and RU3 Forestry.

45. 'Electricity generating works' is a prohibited land use within the C2 Environmental Conservation zone pursuant to the Tamworth Regional LEP 2010. The C2 Environmental Conservation zone is also not a prescribed zone for the purposes of permissibility pursuant to the Transport and Infrastructure SEPP. However, section 4.38(3) of the EP&A Act allows for development consent for SSD to be granted despite the development being partly prohibited by an environmental planning instrument such as the Tamworth Regional LEP 2010 (AR para 34).

3.3.4 Integrated and other NSW Approvals

46. Under section 4.41 of the EP&A Act, several other approvals are integrated into the SSD approval process, and are therefore not required to be separately obtained for the Project (AR para 36). The Commission has considered the Department's recommended conditions of consent relating to integrated and other approvals as part of its deliberation process.

3.4 Mandatory Considerations

47. 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 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 2 – Mandatory Considerations

Mandatory Considerations	Commission's Comments
Relevant EPIs	<p>Appendix I of the Department's AR identifies relevant Environmental Planning Instruments (EPIs) for consideration. The key EPIs include the following State Environmental Planning Policies (SEPP) and LEPs:</p> <ul style="list-style-type: none"> • SEPP (Planning Systems) 2021; • SEPP (Transport and Infrastructure) 2021; • SEPP (Resilience and Hazards) 2021; • SEPP (Primary Production and Rural Development) 2019; • SEPP (Koala Habitat Protection) 2021; • Liverpool Plains LEP 2011; • Tamworth Regional LEP 2010; and • Upper Hunter LEP 2013. <p>Since the submission of the Application to the Department, all NSW SEPPs have been consolidated into 11 policies, effective from 1 March 2022, except for the SEPP (Housing) 2021, which commenced on 26 November 2021.</p> <p>This consolidation does not alter the legal effect of the previously repealed SEPPs, as their provisions have been incorporated into the new SEPPs. References to former SEPPs are now understood to correspond with the new SEPPs. For consistency, the Department has assessed the development against the SEPP provisions in force at the time the SSD was lodged.</p>

	The Commission agrees with the Department's assessment of EPIs set out in Appendix I of the AR. The Commission therefore adopts the Department's assessment.
Relevant Development Control Plans	Section 2.10 of the Planning Systems SEPP states that development control plans do not apply to SSD. The Commission does not consider any development control plans to be relevant to the determination of the Application.
Planning Agreements	The Commission notes the Applicant's monetary offers to: <ul style="list-style-type: none"> • Tamworth Regional Council of up to \$9.5 million (adjusted for Consumer Price Index (CPI) and based on the Applicant's proposed turbines within the LGA for a 64 turbine layout) or, if unable to reach an agreement with Council, a contribution of \$6.3 million with a priority given to projects located within Nundle and Hanging Rock; and • Upper Hunter Shire Council of up to \$1.3 million (adjusted for CPI and based on the Applicant's proposed turbines within the LGA for a 64 turbine layout).
Likely Impacts of the Development	The likely impacts of the Application have been considered in Section 5 of this Statement of Reasons.
Suitability of the Site for Development	The Commission has considered the suitability of the Site and finds that the Site is suitable for the following reasons: <ul style="list-style-type: none"> • the land use is permissible on the Site (noting that the permissibility of the use on part of the Site zoned C2 relies on the application of section 4.38(3) of the EP&A Act); • the Site has suitable wind resources; • the Site is located close to existing electricity transmission networks; • the Site can be accessed from the regional road network; • erosion and sedimentation risks can be managed; • the Project does not preclude the use of the land for agriculture during operation; • the inherent agricultural capability of the land will not be affected in the long term; • adverse impacts on surrounding receivers and local biodiversity have been minimised as far as practicable and would be further managed and mitigated by the imposed conditions of consent; • the Application has consent from relevant landowners, including Crown Lands; and • decommissioning and rehabilitation would be capable of returning the land to an acceptable condition.
Objects of the EP&A Act	In this determination, the Commission has carefully considered the Objects of the EP&A Act and is satisfied that the Application is consistent with those Objects. The Commission finds that the use of the Site for the purpose of electricity generation is an orderly and economic use and development of land.
Ecologically Sustainable Development	The Commission finds that the Project is consistent with Ecologically Sustainable Development (ESD) principles and would achieve an acceptable balance between environmental, economic and social considerations.

The Public Interest

The Commission has considered the submissions described in Section 4.3 below and has balanced both local and broader public interest factors in its consideration of the Application.

The Commission has also weighed the predicted benefits of the Application against its predicted negative impacts, and considers:

- the development of the Site for the purpose of electricity generation will facilitate social and economic benefits for the broader 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.

The Commission has considered the principles of ESD in its assessment of each of the key issues, as set out in Section 5 below. The Commission finds that, on balance, the development is consistent with ESD principles, and that the Project would achieve an appropriate balance between relevant environmental, economic and social considerations.

The likely benefits of the Project warrant the conclusion that an appropriately conditioned approval is in the public interest.

Refer to Section 6 below for further discussion regarding public interest.

3.5 Additional Considerations

48. In determining the Application, the Commission has also considered:

- NSW Noise Policy for Industry;
- Interim Construction Noise Guideline (**ICNG**);
- NSW Road Noise Policy 2011;
- Assessing Vibration: A Technical Guideline (**Vibration Guideline**);
- NSW Biodiversity Offsets Policy for Major Projects (**Biodiversity Offsets Scheme**);
- Social Impact Assessment Guideline (NSW Department of Planning and Environment, 2021); and
- Wind Farms and Bushfire Operations, Guideline Version 3.0 (Australasian Fire and Emergency Service Authorities Council Limited, 2018).

3.6 The Commission's Meetings

49. As part of the determination process, the Commission met with various persons as set out in **Table 3**. All meeting and site inspection notes were made available on the Commission's website.

Table 3 – Commission’s Meetings

Meeting	Date	Transcript / Notes Available on
Department	15 January 2024	21 January 2024
Applicant	15 January 2024	21 January 2024
Tamworth Regional Council (first meeting)	15 January 2024	21 January 2024
Upper Hunter Shire Council	15 January 2024	21 January 2024
Liverpool Plains Shire Council	15 January 2024	21 January 2024
Muswellbrook Shire Council	18 January 2024	23 January 2024
Site Inspection	29 & 30 January 2024	9 February 2024
Tamworth Regional Council (second meeting)	30 January 2024	7 February 2024
Locality Tour	31 January 2024	9 February 2024
Neighbouring Site Visits	31 January 2024	9 February 2024
Public Meeting	1 & 2 February 2024	8 February 2024

4. Community Participation & Public Submissions

4.1 Community Group Attendance at the Site Inspection

50. On 29 and 30 January 2024, the Commission conducted an inspection of the Site. On 31 January 2024, the Commission undertook a locality tour of the areas surrounding the Site including visits to a representative selection of neighbouring properties.
51. The Commission invited representatives from the local Councils and community groups to attend. The following were represented at the site inspection:
- Tamworth Regional Council; and
 - Friends of the Wind Farm community group.
52. The community group Hills of Gold Preservation Inc was invited to the site inspection by the Commission but was unable to attend due to the relevant landholders not granting access to that group.

4.2 Public Meeting

53. The Commission conducted a Public Meeting over two days on 1 and 2 February 2024 at Nundle Memorial Hall. The Public Meeting was held in-person with registered speakers presenting to the Commission in-person or via videoconference or telephone. Registered speakers were also able to present to the Commission via videoconference from a venue located at Tamworth War Memorial Town Hall. The Public Meeting was also livestreamed on the Commission’s website and broadcast live at the Tamworth venue.
54. The Commission heard from the Department, the Applicant, community group representatives and individual community members. In total, 65 speakers presented to the Commission during the Public Meeting.

55. Presentations made at the Public Meeting have been considered by the Commission as submissions.

4.3 Public Submissions

4.3.1 First Submission Period

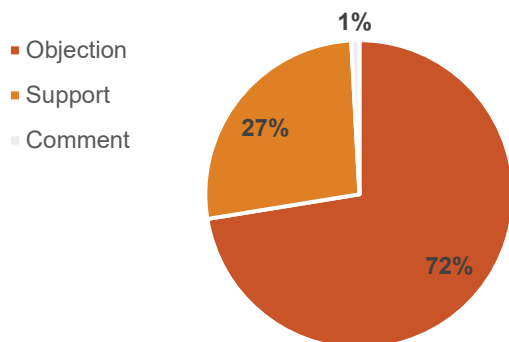
56. As part of the Commission’s consideration of the Application, all persons were offered the opportunity to make written submissions to the Commission between 18 December 2023 and 5pm Australian Eastern Daylight Time, Thursday 15 February 2024 (**First Submission Period**).

57. The Commission received a total of 431 unique written submissions on the Application during the First Submission Period via email, post and the Commission’s website. A total of 352 written submissions were received through the Commission’s website, comprising:

- 94 submissions in support;
- 255 objections; and
- 3 comments.

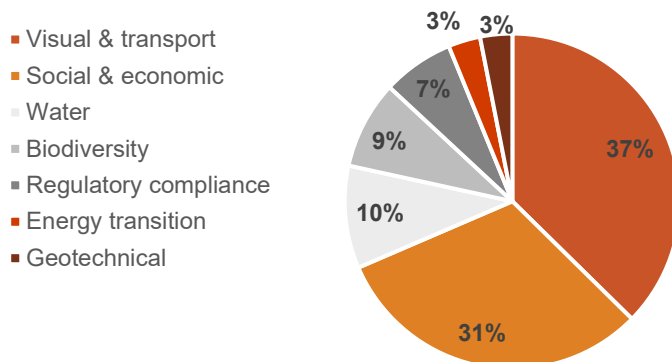
This is illustrated in **Figure 3** below.

Figure 3 – Overview of website submissions received by the Commission during the First Submission Period



58. A thematic breakdown of the written submissions received during the First Submission Period and presentations made at the Public Meeting is set out in **Figure 4**.

Figure 4 – Thematic analysis of submissions



Overview of key themes

59. The following themes reflect and illustrate what the Commission considers to be the key themes that emerged during the First Submission Period.
60. In this section, the reference to 'Project' means the **47 turbine Project** as recommended by the Department in its AR.

Visual impacts

61. The Commission received submissions raising concern about the visual impact of the Project, in particular the visibility of turbines from private properties adjoining and nearby the Site. Submissions noted that the Project would alter the rural character of the area and reduce its scenic quality and views.
62. Concerns were raised about the accuracy of the Applicant's photomontages and the effectiveness of the proposed vegetation screenings in mitigating visual impact. Concerns were also raised about the potential impacts of screening plantings on bushfire risk.
63. Submissions also raised concerns about the potential for shadow flicker and blade glint from the turbines, as well as visual impacts associated with aviation lighting.
64. Submissions in support of the Project expressed that wind turbines would not have an adverse visual impact and over time would become a familiar part of the landscape.

Traffic and transport

65. Submissions raised concerns about OSOM vehicle movements needed to transport large wind turbine components to the Site, with specific issues about the proposed transportation routes and the suitability of roads.
66. Tamworth Regional Council objected, citing concerns regarding the use of Barry Road and Morrisons Gap Road, including Devils Elbow, for heavy vehicle use.
67. Muswellbrook Shire Council also objected, expressing concerns over increased road maintenance costs, safety risks from nighttime OSOM vehicle traffic, and the negative effects on residents from noise, flashing lights, and other disturbances.
68. Submissions in support noted the benefits that would arise to road users, including emergency services, as a result of road upgrades proposed as part of the Application. Submissions in support also stated that the impact of the heavy vehicles would be no worse than existing movements associated with forestry and livestock transportation.

Biodiversity

69. Objections were raised regarding the Project's potential to impact native bird and bat species. Specific concerns were raised about the risk of injury from sudden or significant shifts in air pressure, blade strike, and flow on effects from the Project's required vegetation clearing to raptor and microbat habitat in the area. Submitters also commented on the Project's potential negative impacts to threatened ecological communities, koala habitat, and other terrestrial and aquatic biodiversity.

Socio-economics

70. Submissions raised considerable concern regarding the Project's impacts on the social cohesion of the local communities in Nundle, Hanging Rock and Crawney, with some submitters commenting that these communities had been fractured because of the Project, and the associate lengthy and complex consultation and assessment processes.

71. Several submissions expressed concerns regarding the Project's impacts on local and regional tourism, which is partly reliant on the area's natural assets. Particular concerns in this regard related to the 6-14 month construction period peak and its associated roadworks. The potential for flow on impacts to Nundle's local businesses and retail stores was also raised as an issue, as they heavily rely on visitor expenditure. Submissions also raised concerns regarding the capacity of the area to meet the Project's workforce and accommodation needs.
72. Submissions in support of the Project raised potential socio-economic benefits, such as increased local expenditure during its construction and operation periods, employment opportunities that could entice young workers and families to stay within the area, and provision of funds that could be spent on much-needed improvements to the area's existing community infrastructure. Submitters commented that the proposed community enhancement fund would provide long term prosperity for the area and benefit local community and volunteer groups.

Overview of other themes

Water

73. Submissions raised concern regarding the Project's impacts on the surrounding waterways include the Peel, Isis and Barnard River systems and the Sheba and Chaffey Dams. Several submissions came from landowners reliant on these water sources for their agricultural operations who were concerned about the potential negative impacts of the Project on water supply, access and quality. Several submitters also expressed concern about the potential impacts on Tamworth and the broader region's drinking water supply.

Site suitability

74. Submissions objected to the Project being located outside of a designated REZ and its proximity to Ben Halls Gap Nature Reserve and Crawney Pass National Park. Several submissions contended that although the Site's location was suitable in view of the available wind resource, this alone did not make it suitable for a wind farm development.
75. Submissions in support of the Project highlighted the fact that the Site is not located on prime agricultural land and that the development will largely utilise existing transmission infrastructure.

Soils and erosion

76. Submissions expressed concern regarding the Site's erosion and the landslip potential, with several submitters arguing that the Site's soils are highly fragile and erodible and therefore unsuitable for the Project's infrastructure needs. Submissions expressed concerns that construction of the Project would not be feasible given the Site's steep terrain, and that the proposed vegetation clearing would exacerbate the risk of landslides and associated visual impact, and in turn pose silting and sedimentation risks for the river systems and water catchments surrounding the Site.

Bushfire risk

77. Submissions raised concerns about the Project's potential to increase bushfire risk. Additionally, there were concerns about firefighting services' ability to access remote parts of the Site and particularly that aerial firefighting methods would be constrained in the locality and broader area due to the aviation hazard posed by the turbines.

Energy transition

78. Submissions in objection noted the Site is not located in a REZ and stated that there isn't a need for the Project in this location.
79. Submissions in support of the Project expressed concern about climate change and supported moving away from fossil fuels, emphasising the long term benefits the Project could have by generating renewable energy for future generations.

4.3.2 Second Submission Period

80. On 12 and 15 February 2024 (during the First Submission Period), the Applicant provided submissions to the Commission (**Applicant submission**) seeking consent for 15 of the 17 wind turbines (being turbines 9-11, 28 and 53-63) that the Department had recommended be excluded from any development consent for the Project. The Applicant was therefore proposing a 62 turbine Project. The Applicant stated in its submission that the removal of the 15 turbines "*renders the overall Project as commercially unviable and, as a result, jeopardises the realisation of the overwhelming environmental, economic and social benefits it would otherwise deliver*" (Applicant submission, letter page 1).
81. Following closure of the First Submission Period, the Commission wrote to the Department on 16 February 2024 seeking a response to the matters raised by the Applicant at the Public Meeting, in its meeting with the Commission and in the Applicant submission.
82. The Department's response to the Commission, dated 24 June 2024, included the following Additional Material:
 - the Department's response to questions from the Commission, dated 24 June 2024;
 - the Department's request to the Applicant for further information, dated 22 February 2024;
 - the Applicant's response to the Department, dated 27 March 2024;
 - IEAPET advice, dated 14 June 2024; and
 - an updated recommended instrument of consent.
83. The Commission considered that it would be assisted by public submissions on the Additional Material. In accordance with the Commission's Public Submissions Guidelines, the Commission re-opened public submissions on the Additional Material, with submissions permitted by email between 27 June 2024 and 12pm Australian Eastern Standard Time, Monday 15 July 2024 (**Second Submission Period**).
84. The Commission received a total of 214 unique written submissions on the Additional Material. The new key themes from these submissions are summarised below. This summary does not provide an exhaustive report of all submissions considered by the Commission, as some themes or issues were previously raised during the First Submission Period and have been addressed in Section 4.3.1 above. Instead, the summary below highlights what the Commission considers to be the most significant new themes that emerged during the Second Submission Period.
85. In this section, the reference to 'Project' means the **62 turbine Project** as recommended by the Department in its Additional Material.

Overview of key themes

86. Objections raised concerns about the assessment of economic viability, including the underlying data relied on in the IEAPET advice and the weighting of economic viability in the overall project assessment. There were also concerns about benefits to the local community and whether the Project was in the public interest.

87. Further objections focused on the Department's application of Draft Guideline 2023 instead of the existing Guideline 2016 for assessing visual impact. Concerns were also raised about the reinstatement of turbines that were not previously recommended for approval by the Department.
88. Objections from Tamworth Regional Council and Muswellbrook Shire Council raised concerns including uncertainty around road upgrades, cumulative traffic impacts and issues associated with the deterioration of the local road network.

5. Key Issues

89. In this section, the reference to 'Project' means the **64 turbine Project** as proposed in the Application, as amended, unless otherwise specified.

5.1 Scope of Application

90. As discussed in Section 2.3 above, the Department's original recommendation to the Commission was to grant consent for a 47 turbine Project, omitting consent for 17 turbines from the Application, as amended, to reduce visual and noise impacts on nearby non-associated residential receivers, and because of biodiversity impacts.
91. As set out in Section 4.3.2 above, the Applicant submission sought to reinstate 15 of the 17 wind turbines (being turbines 9-11, 28 and 53-63) that the Department had recommended for omission from any development consent. The Applicant submission stated that:
- the Department's assessment overstated visual amenity impacts, and that biodiversity impacts from the Project had been avoided and mitigated as much as practicable; and
 - the performance of turbines will vary due to a range of factors, and that the absence of turbines 53-63 would have a significant economic impact to the viability of the Project as the majority of those turbines recommended for removal by the Department were anticipated to be the highest performing turbines, with each anticipated to yield 22% more energy per annum than the other turbines on average.
92. The Commission wrote to the Department on 16 February 2024 seeking a response to the matters raised in the Applicant submission.

5.1.1 IEAPET advice

93. The Department sought advice from IEAPET in order to examine the Applicant's claim that the Project was commercially unviable without reinstating 15 of the 17 turbines the Department had recommended deleting.
94. The IEAPET was established by the Department to provide, when requested by the Department or Commission, specialist knowledge and expert advice on the assessment of energy projects under the EP&A Act. The operation of the IEAPET is bound by its Terms of Reference which is available on the Department's website.
95. The IEAPET provided advice to the Department in its report *Hills of Gold Wind Farm Proposal – Advice on energy production cost impacts under turbine configuration scenarios*, dated 14 June 2024 (**IEAPET advice**). The advice compared the economic performance of four project development scenarios, namely:

- the 62 turbine Project, as proposed by the Applicant in its submission;
 - the 47 turbine Project, as recommended by the Department in its AR; and
 - two illustrative intermediate scenarios comprising 55 and 50 turbines respectively.
96. The IEAPET concluded that, under the analysed scenarios, the 62 turbine Project is the only viable scenario. The IEAPET also concluded the 47 turbine Project as originally recommended by the Department is not viable.
97. The Department provided its response to the Commission on 24 June 2024. Based on the IEAPET advice, the Department recommended that it would be in the public interest to approve the 62 turbine Project as proposed by the Applicant in its Applicant submission, instead of the 47 turbine Project originally recommended in the Department's AR.

5.1.2 Commission's findings

98. The Commission accepts IEAPET's advice that the 47 turbine Project as recommended in the Department's AR would not be viable, and that among the scenarios tested by the IEAPET, the 62 turbine Project is the only one that is clearly viable.
99. The Commission has given consideration to the 62 turbine Project's impacts in this Statement of Reasons, including visual (Section 5.2), traffic and transport (Section 5.3), biodiversity (Section 5.4), socio-economic (Section 5.5), noise and vibration (Section 5.6), decommissioning and rehabilitation (Section 5.7) and other impacts (Section 5.8).

5.2 Visual

5.2.1 Consideration of Draft Wind Energy Guideline 2023

100. As discussed in Section 3.2.2 above, the Department is currently developing a new Energy Policy Framework, which includes the draft *Wind Energy Guideline 2023* and its supporting attachments (**Draft Guideline 2023**), which is an updated version of the existing *Wind Energy Guideline 2016* and its supporting technical bulletins (**Guideline 2016**).
101. The Department states that the existing Guideline 2016 relies on visual performance objectives but does not provide specific guidance on how the assessment against those objectives should occur, which means it is open to a level of subjectivity (page 3 of the Department's response, dated 24 June 2024 and forming part of the Additional Material).
102. Although Draft Guideline 2023 was not applicable to the original assessment of this Application by virtue of being a draft (AR para 22), the Department in its later assessment of visual impacts on neighbouring non-associated receivers DAD01, NAD67, NAD05, NAD33, NAD69, NAD72 and NAD98 has adopted the approach prescribed in Draft Guideline 2023 on the basis that it is a reproducible method of quantifying visual magnitude when considering the visual performance objectives of the Guideline 2016's *Visual Assessment Bulletin* (page 3 of the Department's response, dated 24 June 2024 and forming part of the Additional Material). The Department's application of Draft Guideline 2023 to these receivers is presented in Table 1 of the Department's response (see page 4 of the Department's response, dated 24 June 2024 and forming part of the Additional Material).
103. The Commission agrees with the Department's approach to quantifying visual magnitude in considering the visual performance objectives of Guideline 2016. The Commission finds it appropriate to consider the Draft Guideline 2023 methodology for quantifying visual magnitude, as it is a reproducible and objective measure of impact that supports the reduction of subjectivity and applies a robust approach to assessing visual impact.

104. Accordingly, the Commission has considered the results of the application of both the Draft Guideline 2023 and the Guideline 2016 in its consideration of the Project's visual impacts on the following neighbouring non-associated receivers (residences): DAD01, NAD67, NAD05, NAD33, NAD69, NAD72 and NAD98. The Commission notes the different outcomes arising from this approach, and related stakeholder concerns.
105. **Table 4** below provides a summary of the Department's visual assessment of these receivers and outlines the Commission's position on mitigation measures.

Table 4 – Summary of the Department's visual assessment for key neighbouring non-associated receivers and the Commission's position

Receiver	Department's assessment applying Guideline 2016 (AR, Tables 10-12)		Department's assessment applying Draft Guideline 2023 (Additional Material, Table 1)		Commission's position *refer to Section 5.2.3 for further discussion
	Aligns with visual performance objective?	Recommended mitigation	Impact rating	Performance objective	
DAD01	<p>Visual magnitude: No, T53-T63 in close proximity, unscreened and highly visible</p> <p>Multiple wind turbine: No, 3 sectors</p> <p>Landscape scenic integrity / key feature disruption: No, T53-T63 highly visible and dominate the landscape</p>	Delete T53-T63	High	Avoid high impact rating unless it can be justified in accordance with the considerations in Draft Guideline 2023	<p>Mitigation: Property acquisition on request. Visual mitigation on request.</p>
NAD05	<p>Visual magnitude: No, T59-T63 in close proximity and unscreened; T58, although closer, is screened by vegetation</p> <p>Multiple wind turbine: Yes</p> <p>Landscape scenic integrity / key feature disruption: No, T59-T63 would be major elements</p>	Delete T59-T63	High	Avoid high impact rating unless it can be justified in accordance with the considerations in Draft Guideline 2023	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact.</p>
NAD33	<p>Visual magnitude: Yes</p> <p>Multiple wind turbine: No, 3 sectors</p> <p>Landscape scenic integrity / key feature disruption: No, turbines dominate the landscape</p>	Vegetation screening, however deleting turbines to address other receivers also benefits	Low	No mitigation required	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact.</p>

		Department's assessment applying Guideline 2016 (AR, Tables 10-12)		Department's assessment applying Draft Guideline 2023 (Additional Material, Table 1)	
Receiver	Aligns with visual performance objective?	Recommended mitigation	Impact rating	Performance objective	Commission's position *refer to Section 5.2.3 for further discussion
NAD67	<p>Visual magnitude: Yes, topography screens the nearest turbines, T60 at 2.41km is the nearest visible turbine</p> <p>Multiple wind turbine: Yes</p> <p>Landscape scenic integrity / key feature disruption: No, T60-T70 would dominate the primary northward views</p>	Delete T61-T62	Low	No mitigation required	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact.</p>
NAD69	<p>Visual magnitude: Yes</p> <p>Multiple wind turbine: Yes</p> <p>Landscape scenic integrity / key feature disruption: No, turbines dominate the landscape</p>	Delete T24	Moderate	Consider mitigation	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact</p>
NAD72	<p>Visual magnitude: Yes</p> <p>Multiple wind turbine: Yes</p> <p>Landscape scenic integrity / key feature disruption: No, turbines dominate the landscape</p>	Delete T9-T11	Moderate	Consider mitigation	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact.</p>
NAD98	<p>Visual magnitude: Yes</p> <p>Multiple wind turbine: Yes</p> <p>Landscape scenic integrity / key feature disruption: No, turbines dominate the landscape</p>	Delete T9	Moderate	Consider mitigation	<p>Mitigation: Visual mitigation on request, noting that although vegetation screening may not fully eliminate the view of turbines, it could sufficiently lessen the impact.</p>

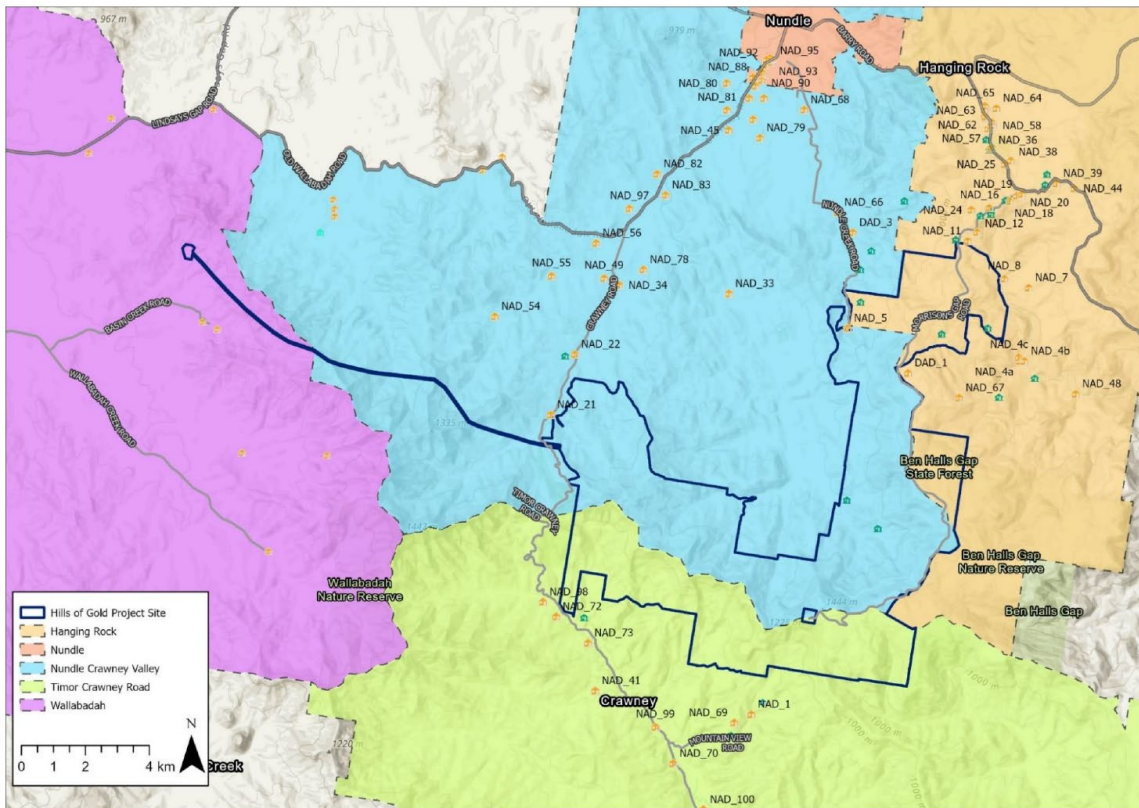
5.2.2 Accuracy of photomontages

- 106. As noted in Section 4.3.1 above, submissions raised concerns over the Applicant’s LVIA and the accuracy of its photomontages and wireframe diagrams to depict the visual impact of the Project.
- 107. The Department engaged O’Hanlon Design Landscape Architects (**OHD**) to review the Applicant’s LVIA and provide independent advice against the *Visual Assessment Bulletin* of Guideline 2016 (AR para 86). The AR states that the Department and OHD visited several non-associated dwellings surrounding the Site to assess the potential visual impacts of the Project (AR para 86).
- 108. Appendix K to the AR, OHD’s *Independent Expert Review* of the Applicant’s LVIA (**OHD review**), states that:

We consider that the Consolidated LVIA documents, including Addendums, updated layouts and responses to DPE requests for information, address the VAB requirements. The Consolidated LVIA contains sufficient detail to meet the requirements of the VAB in relation to impact assessment at each residence within the required distances or Visual Zones and from a wide range of public viewpoints outside the Site Boundary. (OHD review p.6)
- 109. The Commission is satisfied, as confirmed by the outcome of the independent OHD review, that the Applicant’s LVIA, and the accuracy of its photomontages and wireframe diagrams, have been prepared in accordance with Guideline 2016.

5.2.3 Impact to key neighbouring non-associated residences

Figure 5 – Map showing location of non-associated residences (receivers) in context of the Site (AR, Figure 6)



110. The impacts on non-associated residences (receivers) DAD01, NAD67, NAD05, NAD33, NAD69, NAD72 and NAD98 have been considered due to their proximity to the Project and exposure to potential impacts (see **Figure 5**). Non-associated residences are residences directly impacted by the Project which are not subject to an agreement with the Applicant.

DAD01 and NAD67

111. The approved dwelling at DAD01 is situated 330m east of the nearest proposed turbine, with six turbines located within a 1km radius and turbines visible in three 60-degree sectors from the southwest to the north (AR para 103). The Department notes that the visual impacts at this location would be significant and could not be satisfactorily mitigated with vegetation (AR para 103). Wind turbines T53 to T63 are in close proximity to DAD01 and are highly visible (AR Table 10).
112. The existing dwelling at NAD67 is located to the east of DAD01, with the nearest visible turbine being 2.39 km from the dwelling (EIS Table 11.2).
113. The Department notes in its AR that visual performance objectives outlined in Guideline 2016 are not met at DAD01 and NAD67, where vegetation screening would be either insufficient or inappropriate as a mitigation measure (AR para 100). The Department's AR recommended deleting 11 turbines (T53 to T63) to alleviate the visual and noise impacts at DAD01. According to the Department, the removal of these turbines would also address potential visual impacts at NAD67 (AR para 110).
114. The Department's response (dated 24 June 2024 and forming part of the Additional Material) stated that under Draft Guideline 2023, a high impact should be avoided unless it can be justified that:
- all reasonable mitigation options have been considered;
 - the proposed mitigation measures would effectively mitigate the impact and would not result in a significant obstruction of views;
 - the project site is strategically important because of its location; and
 - the project is in the public interest.
115. The Applicant accepts that both visual and noise impacts at DAD01 cannot be satisfactorily mitigated due to the proximity of the proposed turbines.
116. Consequently, the Department considered other elements of the justification, including the strategic importance of the Project location and whether it is in the public interest. As set out in Section 5.1 above and based on the IEAPET advice, the Department recommended that it would be in the public interest to approve turbines 53-63 (as part of a 62 turbine Project) to provide 372 MW of renewable energy to the State of NSW, with a condition providing for the voluntary acquisition of Lot 47 DP753722, the land which contains DAD01.
117. The Department considers no mitigation is required for NAD67 when adopting the performance objective under Draft Guideline 2023.
118. In their submission to the Commission, the DAD01 and NAD67 landowner objected to the Application and opposed the proposed voluntary acquisition of DAD01, considering it unfairly benefits the Applicant. Submissions also expressed concern about the Applicant's attempted reliance on acquisition rights to obtain development consent for turbines.

Commission's findings

119. The Commission notes the Department's visual assessment for DAD01, as summarised in **Table 4**, based on the applications of Guideline 2016 and Draft Guideline 2023. **Figures 6 to 8** include photomontages and wireframe diagrams with mitigation, depicting views of the Project from DAD01 and NAD67, which have been considered by the Commission in analysing the visual impacts of the Project.
120. The Commission acknowledges the proximity of the 11 proposed wind turbines (T53 to T63) to the approved dwelling, or potential alternate dwelling locations on DAD01, will create significant visual impacts.
121. Noting the Commission's findings at Section 5.1 above, the Commission has not considered granting consent to a modified version of the Application with fewer than the viable number of turbines recommended in the IEAPET advice, which is a 62-turbine Project.
122. Given this context, the Commission considers that offering the landowner of DAD01 the option to have their property acquired by the Applicant would allow the Project to proceed while providing an objectively robust mitigation measure. Granting the landowner of DAD01 the right to request property acquisition up to five years after the commencement of operations (as opposed to the five-year timeframe recommended by the Department) provides the landowner, whether current or future, with greater flexibility. This allows them to request the Applicant to acquire DAD01 in response to visual impacts and other issues, such as noise, blade/ice throw, and shadow flicker. Condition B1 has been imposed by the Commission to give effect to this intent.
123. The Commission notes that the landowner of DAD01 may not exercise their rights to require acquisition or may wish to consider physical visual mitigation options prior to acquisition. Given this, the Commission has also imposed Condition B2 requiring the Applicant to implement visual impact mitigation measures if requested by the landowner, which includes DAD01 and NAD67. Upon receiving a written request from the landowner, the Applicant must implement appropriate mitigation measures, such as landscaping and vegetation screening, in consultation with the landowner.
124. While such measures may not achieve technical compliance of mitigation requirements for DAD01 according to relevant guidelines, they may nonetheless achieve a level of mitigation acceptable to the landowner. The Commission considers that this would also support mitigation of the visual impacts to NAD67, should the landowner wish to pursue this option.
125. Regardless of any agreement between the Applicant and the landowner of DAD01 concerning the development's impacts, and even if the Applicant has informed the Department in writing of the agreement's terms, the landowner retains the right to request acquisition within the specified timeframe of Condition B1.

Figure 6 – DAD01 (north view) photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)

Proposed View | 180 degree Photomontage (North)



DAD_01 180° Wire Frame Diagram with Mitigation (North)

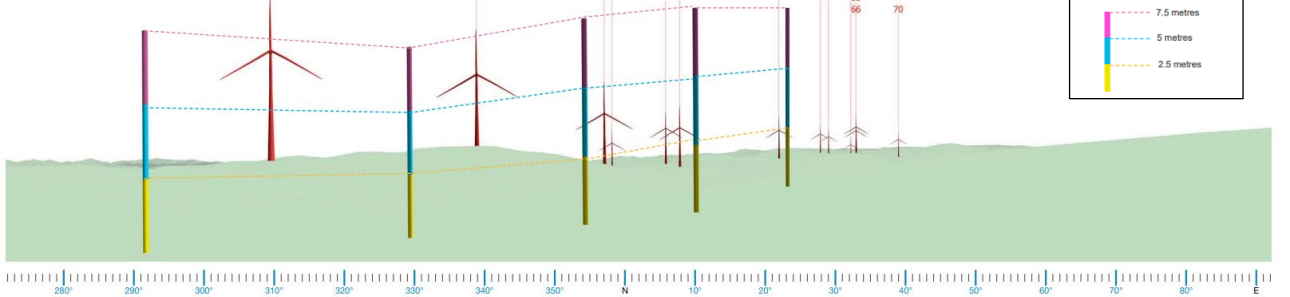


Figure 7 – DAD01 (south view) photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)

Proposed View | 180 degree Photomontage (South)

87 degrees field of view



DAD_01 180° Wire Frame Diagram with Mitigation (South)

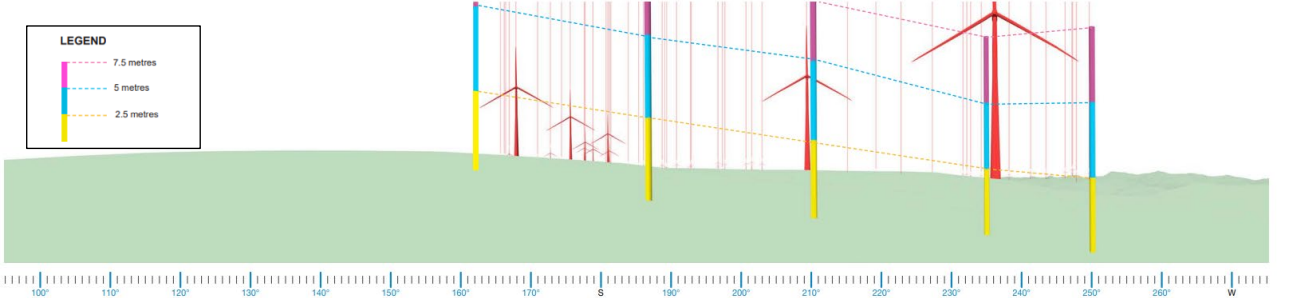
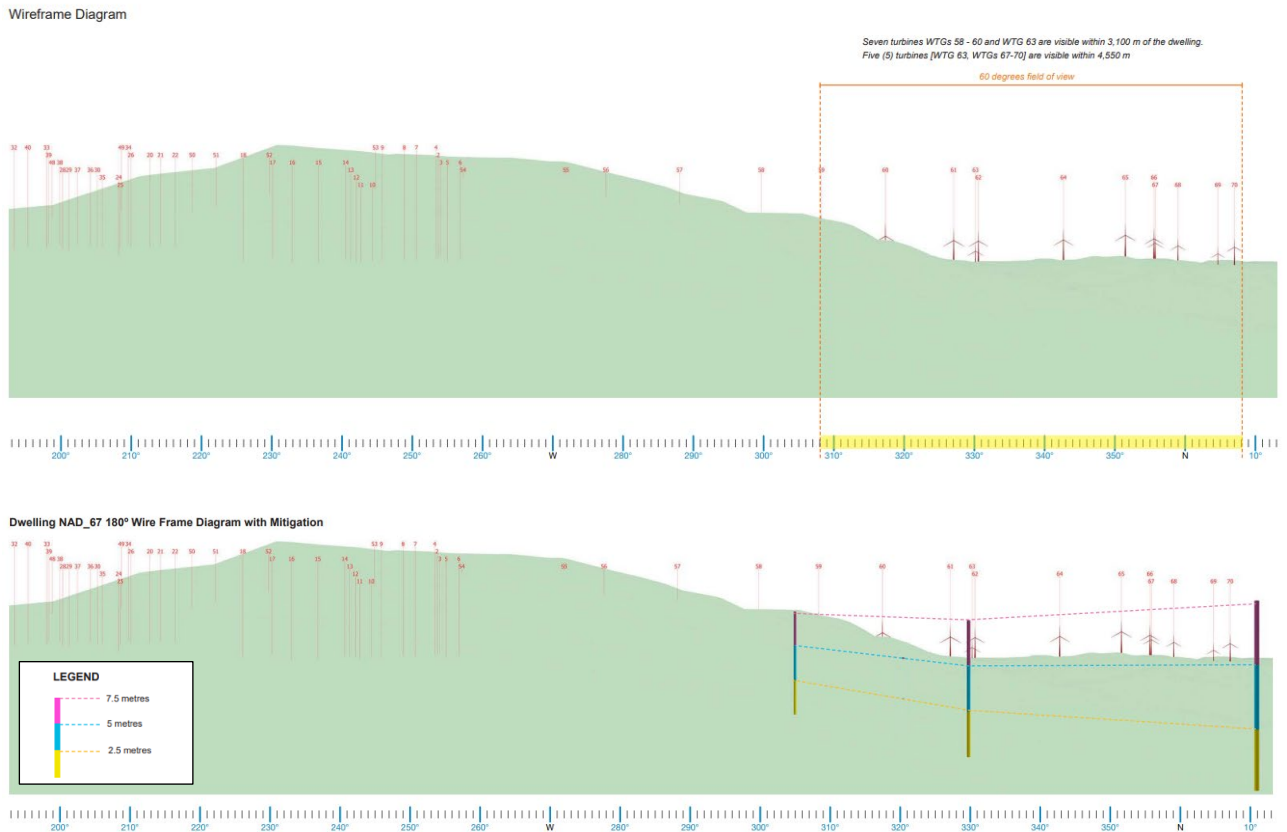


Figure 8 – NAD67 wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



NAD05

126. NAD05 is situated within 2 km of the nearest turbine, and screening the Project's visual impact would require tall and dense vegetation (AR para 114). Given the proximity and elevated position of turbines T59 to T63, the Department, in applying Guideline 2016, originally noted in its AR that such screening may create a sense of enclosure and obstruct existing views of the ridgeline (AR para 114). Due to the lack of effective mitigation options, the Department had originally recommended the removal of turbines T59 to T63 to minimise visual impacts on NAD05, as well as on DAD01 and NAD67 (AR para 116).
127. As noted in **Table 4**, the Department, in applying Draft Guideline 2023, concluded NAD05 had a 'high' visual impact rating. The Department notes that turbines with high visual impacts should be avoided for receivers like NAD05 unless the Applicant can provide further justification in accordance with the considerations in Draft Guideline 2023 (page 4 of the Department's response, dated 24 June 2024 and forming part of the Additional Material).
128. According to the Department, the Applicant states that vegetation screening could mitigate the visual impact at NAD05 within two to five years and that the screening would not obstruct views since the primary view from the dwelling is considered to be towards the north, and not the east where the turbines are located (page 4 of the Department's response, dated 24 June 2024 and forming part of the Additional Material).

129. The landowners of NAD05 oppose the reinstatement of the 11 turbines, particularly turbines T59 to T63, citing impacts to their views and concerns related to the viability of effective screening within the timeframe proposed by the Applicant (being two to five years).

Commission’s findings

130. The Commission notes the Department’s visual assessment for NAD05, as summarised in **Table 4**, based on the applications of Guideline 2016 and Draft Guideline 2023. **Figure 9** includes a photomontage and wireframe diagram with mitigation, depicting views of the Project from NAD05, which have been considered by the Commission in analysing the visual impacts of the Project.

131. The Commission agrees with the Applicant that the primary view from the dwelling at NAD05 is not to the east where turbines T59 to T63 are located. Noting this, the Commission is satisfied that the visual impacts from turbines T59 to T63 on NAD05 could be sufficiently mitigated through landscaping and vegetation screening.

132. The Commission has imposed a condition of consent that requires the Applicant, upon receiving a written request from the landowner of NAD05, to implement appropriate mitigation measures in consultation with the landowner, such as landscaping and vegetation screening, to address the visual impacts of the Project. The Commission acknowledges that while it may take between two to five years for the vegetation to establish on site and reach the intended level of mitigation, on balance, given the view to turbines T59 to T63 from NAD05 not being the dwelling’s primary view, the mitigation is considered acceptable.

Figure 9 – NAD05 photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



NAD33

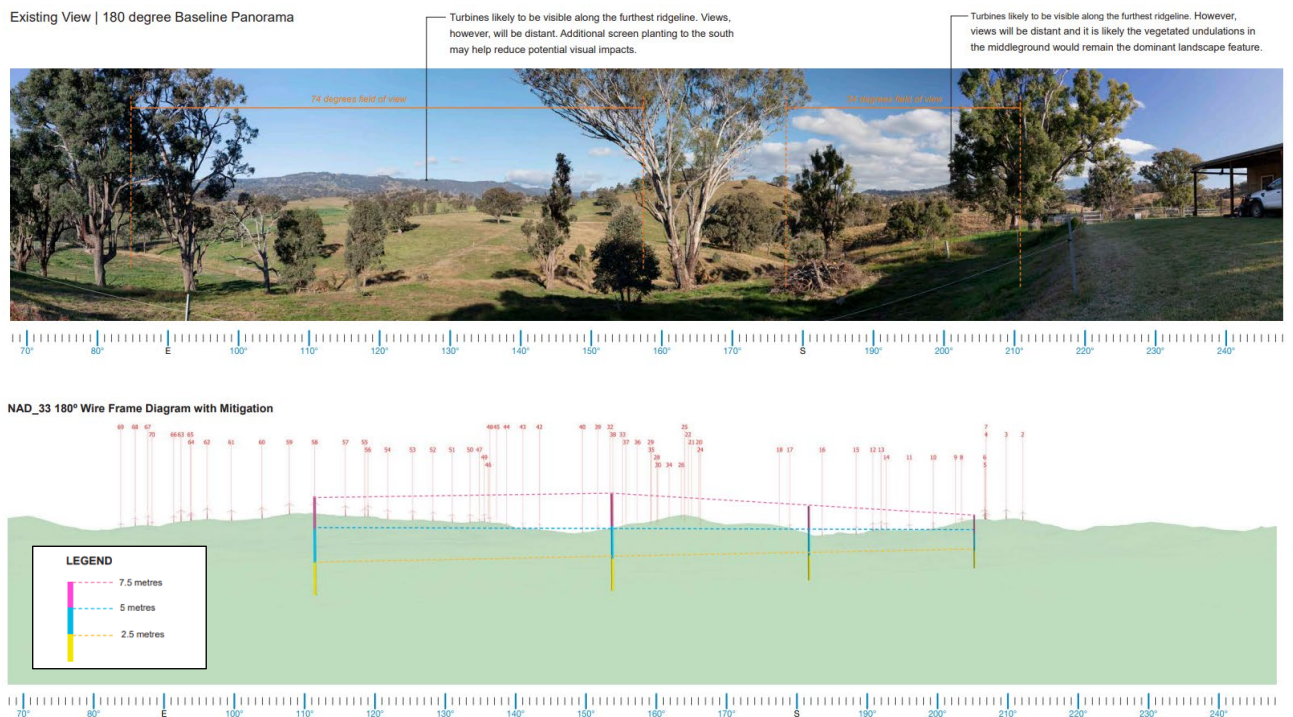
133. While the dwelling at NAD33 is located 5.51 km from the nearest turbine, the Applicant's Landscape and Visual Impact Assessment (**LVIA**) identified that turbines would be visible in three 60-degree sectors south of the dwelling and confirmed that the dwelling is oriented to the south (AR para 117). The photomontage at **Figure 10** illustrates the view from NAD33 towards the Project.
134. During the Department's assessment of the Application, the landowner of NAD33 informed the Department about potential future dwelling locations on their property and had initial discussions with Tamworth Regional Council regarding the potential for dwellings on their lots with dwelling entitlements. However, the Department notes that at the time of the Department's assessment, no development approvals were in place for these lots (AR para 118).
135. Additionally, the Department was advised that a development application was lodged with Tamworth Regional Council for rural workers' dwellings on Lot 2 DP1103716, adjacent to NAD33. The Department considers that the proposed workers' dwellings are unlikely to have significant visual or noise impacts as they would be located over 4.55 km from a turbine (AR para 121). This development application was pending determination at the time the Department's AR was prepared.
136. The Department, in applying Guideline 2016, concluded that the Project met the visual magnitude objective, but did not meet the multiple wind turbine or landscape scenic integrity / key feature disruption objectives and recommended vegetation screening to mitigate visual impacts to NAD33 (AR Table 11).
137. As noted in **Table 4**, the Department, in applying Draft Guideline 2023, concluded that NAD33 had a 'low' visual impact rating and that no mitigation was required when assessed against the relevant performance objective.
138. In their submission, the landowners of NAD33 state that the Applicant inaccurately claims the proposed turbines will not dominate the landscape and that vegetation screening will mitigate the impacts. They also noted that the approved development applications for additional dwellings on their property have not been acknowledged by the Applicant, and no visual assessments have been conducted for these dwellings.

Commission's findings

139. The Commission notes that Tamworth Council's DA tracker shows the following development application approvals on Lot 2 DP1103716:
 - DA2024-0104 was approved with conditions on 3 November 2023 for the 'temporary storage of a relocated dwelling under Clause 2.8 of the LEP' (uninhabited); and
 - DA2024-0164 was approved with conditions on 5 July 2024 for a 'relocated dwelling (non BASIX affected) for the purpose of a rural worker's dwelling'.
140. The Commission notes the Department's visual assessment for NAD33, as summarised in **Table 4**, based on the applications of Guideline 2016 and Draft Guideline 2023. **Figure 10** includes a photomontage and wireframe diagram with mitigation, depicting views of the Project from NAD33, which have been considered by the Commission in analysing the visual impacts of the Project.
141. The Commission notes that the site of NAD33 is located over 5 km from the nearest turbine, with views towards the Project to the south and southeast. The Commission considers the Department's recommended mitigation measures, in accordance with Guideline 2016, should be implemented, including the use of vegetation screening to mitigate visual impacts on the existing dwelling at NAD33.

142. The Commission is satisfied that the visual impacts on the proposed rural workers' dwellings on the site have been considered in the Department's assessment. The Commission agrees with the Department that the proposed rural workers' dwellings will not likely have significant visual impacts, being located beyond 4.55 km from a turbine. Nonetheless, Condition B2 has been imposed by the Commission that allows the landowner of NAD33 to request visual impact mitigation measures on their land to minimise the visual impacts of the Project on their existing and approved residences.

Figure 10 – NAD33 photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



NAD69

143. According to the Department's AR, the placement of turbines extending across the east-west ridgeline between Ben Halls Gap Nature Reserve and Crawney Pass National Park would dominate the landscape scenic integrity at NAD69 (as well as NAD72 and NAD98) (AR para 128), with the closest turbine to NAD69 being T24, located 3.63 km away (AR Table 12).
144. The Department, applying Guideline 2016, recommended the removal of turbine T24 to reduce visual (and biodiversity) impacts on NAD69 (AR Table 12). Additionally, they recommended including a condition requiring the Applicant, upon written request from the NAD69 landowner, to implement appropriate mitigation measures (such as landscaping and vegetation screening) in consultation with the landowner to address the Project's visual impacts.
145. As noted in **Table 4**, the Department, in applying Draft Guideline 2023, concluded that NAD69 had a 'moderate' visual impact rating, and that mitigation should be considered when assessed against the relevant performance objective. Although Draft Guideline 2023 suggests that deleting T24 might not be necessary based on the quantitative cell count approach, the Applicant has agreed to remove T24 for biodiversity reasons (discussed further in Section 5.4 below).

146. In their submissions, the landowners of NAD69 raised concerns regarding the effectiveness of the proposed visual screening mitigation measures, and visual impacts related to aviation lighting on the wind turbines.

Commission’s findings

147. The Commission notes the Department’s visual assessment for NAD69, as summarised in **Table 4**, based on the applications of Guideline 2016 and Draft Guideline 2023. **Figure 11** includes a photomontage and wireframe diagram with mitigation, depicting views of the Project from NAD69, which have been considered by the Commission in analysing the visual impacts of the Project.

148. The Commission notes that wind turbine T24 was the only turbine recommended by the Department for removal to mitigate visual impacts on the existing dwelling at NAD69. The Commission is satisfied that, with the removal of T24 and the option for the landowner to request visual impact mitigation measures on their land from the Applicant in accordance with Condition B2, the visual impacts of the development on their existing residence could be sufficiently mitigated.

149. Potential impacts related to aviation lighting on the turbines are discussed in Section 5.2.8 below.

Figure 11 – NAD69 photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



NAD72 and NAD98

150. In applying Guideline 2016, the Department’s AR initially recommended deleting turbines to mitigate impacts on dwellings at NAD72 (T9 to T11) and NAD98 (T9) (AR para 130). This was intended to reduce the dominance of the turbines and minimise disruption to key features (page 5 of the Department’s response, dated 24 June 2024 and forming part of the Additional Material).

151. The Applicant states in their submission that removing turbines T9 to T11 will not have a material effect on reducing visual impacts to NAD72, noting that even with these turbines removed, other turbines will still be visible, with the character of the view having been changed. The Applicant considers the visual impacts on NAD72 are acceptable and within the performance objectives outlined in Guideline 2016.
152. On applying Draft Guideline 2023, the Department notes that, based on the quantitative cell count approach outlined in the Draft Guideline, the removal of turbines T9 to T11 would not be required for NAD72 and NAD98 (page 5 of the Department's response, dated 24 June 2024 and forming part of the Additional Material), and considers vegetation screening could be implemented at these receivers to mitigate the visual impact of the Project.
153. While Draft Guideline 2023 does not require or expect this mitigation to completely eliminate the view of the development, it should reduce the visual impact to an acceptable level (page 5 of the Department's response, dated 24 June 2024 and forming part of the Additional Material). The Department concludes that, although vegetation may not fully eliminate the view of the turbines, it could sufficiently lessen the impact.
154. The landowners of NAD72 and NAD98 oppose the reinstatement of turbines T9 to T11, which were previously not recommended for approval by the Department. They note that these turbines have a great impact on their properties where they have a 60-degree view of the turbines.

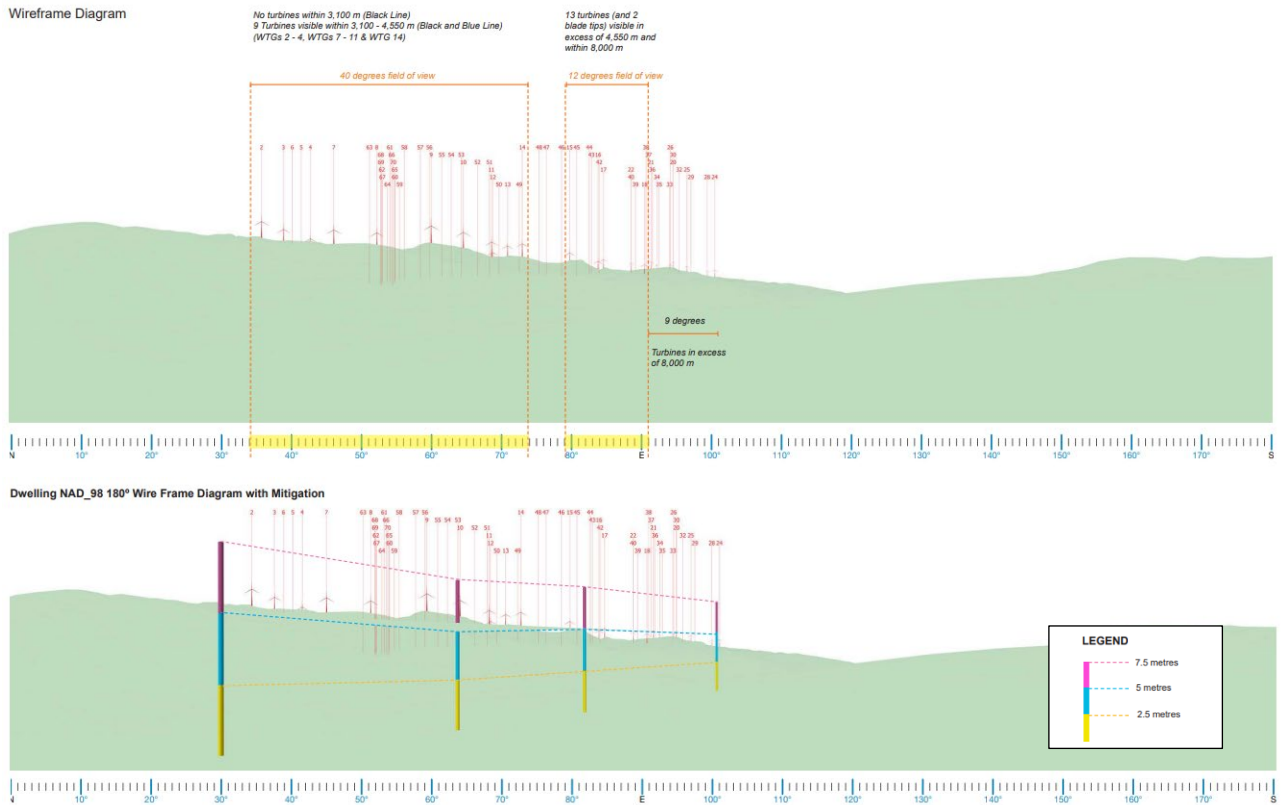
Commission's findings

155. The Commission notes the Department's visual assessment for NAD72 and NAD98, as summarised in **Table 4**, based on the application of Guideline 2016 and Draft Guideline 2023. **Figures 12** and **13** include photomontages and wireframe diagrams with mitigation, depicting views of the Project from NAD72 and NAD98, which have been considered by the Commission in analysing the visual impacts of the Project.
156. The Commission agrees with the Department in relation to its recommendation in its Additional Material for NAD72 and NAD98 that while vegetation may not completely obscure the turbines from the existing dwellings, it can sufficiently reduce the visual impact. Consequently, the Commission finds that removing turbines T9 to T11 is not necessary, given the potential for effective mitigation through vegetation screening.
157. The Commission has imposed Condition B2 which requires the Applicant, upon receiving a written request from the landowner of NAD72 and NAD98 respectively, to implement appropriate mitigation measures in consultation with the landowner, such as landscaping and vegetation screening, to address the visual impacts of the Project.

Figure 12 – NAD72 photomontage and wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



Figure 13 – NAD98 wireframe diagram with mitigation (Addendum to Landscape and Visual Impact Assessment, dated 5 April 2023)



5.2.4 Impact to other receivers / areas

Other non-associated dwellings

158. The Commission agrees with the Department's assessment in its AR on the remaining non-associated receivers. The Commission has imposed Condition B2 enabling the landowners of any non-associated residence within 5 km of any wind turbine identified in the Final Layout Plan to ask the Applicant to implement visual impact mitigation measures, such as landscaping and vegetation screening, on their land to minimise the visual impacts of the Project on their residence.
159. Although vegetation and landscaping may not fully eliminate the view of the wind turbines, the Commission considers it could sufficiently lessen their visual impact on other non-associated dwellings within 5 km of a turbine.

Key public viewpoints

160. The Applicant identified and assessed the visual impacts of the Project from key public viewpoints surrounding the Project in accordance with the visual performance objectives in Guideline 2016, including viewpoints within the Crawney Pass National Park and the camping ground 'Teamsters Rest,' as well as other viewpoints listed in AR para 131.
161. The Commission agrees with the Department that, given the Project's location in a sparsely populated area and away from major transport routes and public viewpoints, the Project would not significantly disrupt the central line of sight or the central focal viewing fields when seen from viewpoints looking toward key features of the land (AR para 137 and 139).

5.2.5 Grid connection and ancillary infrastructure

Wallabadah grid connection

162. The Applicant's LVIA, dated 7 November 2022 (**LVIA Second Addendum**), has considered the visual impact of both 330 kV transmission line options (60 m high steel poles and 50 m high steel towers) and concludes that (LVIA Second Addendum, Appendix B):
- *The impact of both options on the existing visual character is generally low.*
 - *It is recommended that the material for poles and towers for the transmission lines should blend with the existing landscape character and glint should be avoided where possible.*
163. The LVIA also provided an assessment of visual impacts of the 330 kV transmission line options to dwellings at AD74 (a dwelling associated with the Project) and NAD34 (a non-associated dwelling). Regarding the visual impacts to NAD34, the LVIA noted that, '*views are likely to be unclear and the overall impact on the existing landscape character is assessed to be very low or negligible*' (LVIA 2nd Addendum, Appendix B).
164. The Commission agrees with the findings of the LVIA and considers that the 330 kV transmission line options will not have a significant visual impact on nearby dwellings, including NAD34. The Commission has imposed Condition B3 to ensure that all on-site ancillary infrastructure, including the 330 kV transmission line, blends in as far as possible with the surrounding landscape through the use of appropriate paint colours, specifications and screening,

Other on-site ancillary infrastructure

165. The Department considers the Project's ancillary infrastructure, including the BESS, the on-site substation and transmission lines, is unlikely to have a significant visual impact. The Department's assessment is based on several factors, including the presence of existing transmission lines and agricultural infrastructure in the area, the relatively small size of the new infrastructure, its location away from non-associated receivers, the intervening topography and vegetation, and the Applicant's proposed landscape treatments and choice of ancillary components with low visual contrast (AR para 144).
166. The Commission agrees with the Department's assessment and has imposed Condition B3 to further address visual impact, requiring the Applicant to ensure that all on-site ancillary infrastructure, including paint colours, specifications, and screening, blends as far as possible with the surrounding landscape.
167. The Commission has also imposed Condition B2 requiring the Applicant to implement mitigation measures such as landscaping and vegetation screening at the request of any non-associated residence located within 5 km of any wind turbine identified in the Final Layout Plan to reduce the visibility of the visually prominent aspects of the Project.

5.2.6 Rural character

168. As noted in Section 4.3.1 above, submissions raised concerns that the Project would alter the rural character of the area and reduce the quality of views and the scenery generally.
169. The Commission acknowledges the Project will be visible from surrounding non-associated receivers and key public viewpoints, as discussed in Sections 5.2.3 to 5.2.5 above. The Commission, however, is satisfied that the rural character and scenic qualities of the landscape will not be unreasonably impacted and considers the Project to be, on balance, acceptable.

5.2.7 Shadow flicker and blade glint

170. The Applicant's LVIA, dated 16 November 2020, notes a total of nine existing dwellings would experience shadow flicker from the rotating turbine blades. Four of these existing dwellings are 'non-associated dwellings' with one receiver (NAD08) having the potential to experience more than 30 hours per year of shadow flicker. The LVIA noted that NAD08 is surrounded by dense vegetation which would be likely to mitigate any potential unacceptable limits of shadow flicker effects (LVIA pages 43-44).
171. The independent OHD review noted that the Applicant's LVIA did not account for existing vegetation or proposed screening, which should significantly reduce the predicted impacts, including those on NAD08. The review also confirmed that the issue of blade glint has been addressed by adhering to the industry standard of applying a matte finishing to the blades. The Department's assessment concurred with this advice, concluding that the visual performance objectives for shadow flicker and blade glint could be met for all non-associated receivers (AR para 154).
172. The Commission agrees with the Department and the findings of the independent OHD review that the visual performance objectives for shadow flicker and blade glint could be achieved at all existing non-associated receivers. The Commission has imposed Condition B5 which requires the Applicant to ensure that shadow flicker associated with wind turbines does not exceed 30 hours per annum at any non-associated residence (excluding DAD01).

173. The Commission also agrees with the Department that impacts associated with blade glint can be addressed through the Applicant's commitment to apply an industry standard of matte finishing the blades. The Commission has imposed Condition B3 to ensure the wind turbines (including blades) are painted off white/grey, unless otherwise agreed by the Planning Secretary, and finished with a surface treatment that minimises the potential for glare and reflection.
174. The Commission notes that due to its location and proximity to the proposed turbines, the approved dwelling at DAD01 is expected to experience more than 30 hours of shadow flicker annually. The Commission deems it appropriate to impose Condition B1 allowing the landowner of DAD01 to request that the Applicant acquire their property, as outlined in Section 5.2.3 above. Additionally, if the landowner chooses not to pursue acquisition first, they retain the option to request visual mitigation measures from the Applicant.

5.2.8 Aviation hazard lighting

175. Following the initial advice of the Civil Aviation Safety Authority (**CASA**) that the turbines should be lit with steady medium intensity red lighting in accordance with the *National Airports Safeguarding Framework Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers (NASAG Guideline)*, the Applicant developed a night lighting plan proposing to light only 28 turbines out of 64 with lower intensity steady red night-time aviation hazard lighting (based on CASA's recommended spacing interval between lit turbines not exceeding 900m) (AR para 149).
176. As the Department noted, CASA has reviewed this proposed lighting plan and confirmed that low intensity lighting of no lower than 200 candela is a suitable mitigation measure for the Project. A light source at 200 candela will emit about 1,200 lumens above the horizontal plane and is roughly equivalent to 1.5 traditional 60 watt incandescent light bulbs. CASA has also accepted the proposed spacing between lit turbines (AR paras 149-151).
177. The Applicant has also committed to install light shielding so that no light is emitted at or below 10 degrees below the horizontal, and no more than 5% of the nominal light intensity is emitted at or below 5 degrees below the horizontal (AR para 151). The Commission considers this to be an appropriate mitigation measure, noting that partial shielding is permitted under the NASAG Guideline, provided that the shielding does not compromise the operational effectiveness of the obstacle lighting. Given the elevated siting of the turbines within the landscape and the height of the lighting (being mounted on the turbine hubs), coupled with the shielding, the Commission considers these measures will adequately address the impact of aviation hazard lighting on residences in the area.

5.3 Traffic and Transport

5.3.1 Transport routes

178. The Applicant proposes to transport large plant, equipment and materials to the Site via the regional and local road network. This includes the use of oversized and/or overmass (**OSOM**) vehicles and heavy vehicles requiring escort (AR para 162).
179. The Applicant has proposed different transport routes between the Port of Newcastle and the Site depending on the dimensions of the vehicle. These routes are summarised in the Table 14 of the Department's AR.

180. The Applicant's Traffic and Transport Assessment, dated 12 November 2020 (**TTA**), concluded the existing road network has adequate capacity during peak construction and during the operational period (TTA page 92). The Applicant proposes to undertake a number of road upgrades in the LGAs of Tamworth Regional, Muswellbrook Shire, Liverpool Plains Shire and the City of Newcastle.

181. In Table 14 of the AR, the Department notes that:

...EnergyCo has committed to facilitating road upgrades to the State road network between the Port of Newcastle and Bengalla Road in Muswellbrook Shire LGA. Some works relate to those required for the Central West REZ and additional works from Bengalla Road in Muswellbrook north would be required to facilitate transport to the New England REZ.

182. **Table 5** shows a summary of the proposed transport route to Site by the Applicant and a brief overview of the Department's recommendation.

***Table 5** – Summary of proposed Project transport route and Department's recommendation (adapted from AR Table 19 and Department's recommended conditions provided with its Additional Material)*

	Original project (EIS)	Amended project (Second Amendment Report)	Department's recommendation (AR)
Transport route	Port of Newcastle to Nundle via Muswellbrook. Barry Road and Morrisons Gap Road (including Devils Elbow bypass) and Head of Peel Road.	Devils Elbow bypass and Head of Peel Road removed Crawney Road added 4 Routes with sub-options for blades through Nundle (1a and 1b)	Restrict transport of blades to route Option 1a through Nundle Restrict standard loads to Route 4 Adhere to EnergyCo routes to greatest extent possible

183. Regarding routes that do not involve transporting blades from the Port of Newcastle through to the New England Highway, the Department recommends (Additional Material):

- for vehicles with loads exceeding 5.2 m in height, the Golden Highway, Denman Road, Bengalla Road, Wybong Road, Kayuga Road, Invermein Street, Stair Street, New England Highway, Lindsays Gap Road, Nundle Road, Crosby Street, Oakenville Street, and either:
 - Old Hanging Rock Road, Barry Road and Morrisons Gap Road; or
 - Herring Street, Innes Street, Jenkins Street and Crawney Road; and
- for vehicles with loads up to 5.2 m in height, Lindsays Gap Road, Nundle Road, Crosby Street, Oakenville Street and either:
 - Old Hanging Rock Road, Barry Road and Morrisons Gap Road; or
 - Herring Street, Innes Street, Jenkins Street and Crawney Road.

184. The Department's recommended transport routes are illustrated in **Figures 14** and **15**.

Figure 14 – Department’s recommended transport routes between Port of Newcastle to Nundle (Department’s response to the Commission’s request for comment on the draft conditions of consent, dated 21 August 2024)

**Hills of Gold Wind Farm
Transport Route - Port to Nundle**

- Legend**
- Project Infrastructure
 - Project Area
 - Transport Routes
 - OSOM Route 1 - Blades and loads over 5.2m high
 - OSOM Route 2 - Loads up to 5.2m high
 - Heavy Vehicle Route - Switching Station

Date: 01/08/2024
 CRS: GDA94 / MGA zone 56
 Scale: 1:900000
 Basemap: ESRI (2022)
 Data Sources: NSW Spatial (2022)
 SixMaps (2022)

This figure may be based on third party data or data which has not been verified. The figure may not be to scale and is provided for information purposes only.



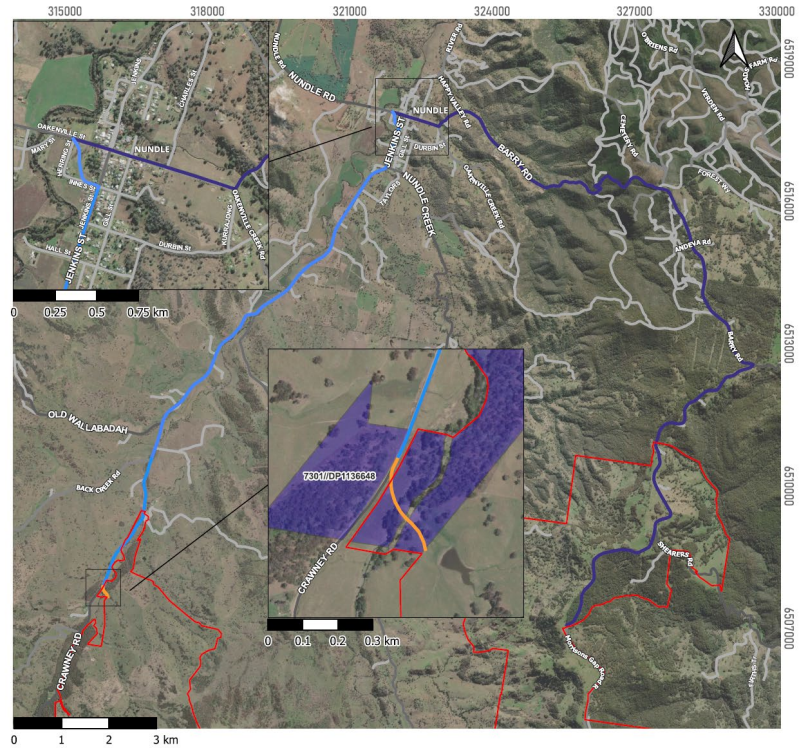
Figure 15 – Department’s recommended transport routes through Nundle to Site (Department’s response to the Commission’s request for comment on the draft conditions of consent dated, 21 August 2024)

**Hills of Gold Wind Farm
Transport Route - Nundle to Site**

- Legend**
- Project Infrastructure
 - Project Area
 - Transport Routes
 - Heavy Vehicles - Morrisons Gap Road
 - OSOM - Nundle to Site
 - OSOM - Site Entrance - Option B

Date: 12/12/2023
 CRS: GDA94 / MGA zone 56
 Scale: 1:77000
 Basemap: ESRI Satellite (2022)
 Data Sources: NSW Spatial (2022)
 SixMaps (2022)

This figure may be based on third party data or data which has not been verified. The figure may not be to scale and is provided for information purposes only.



185. The Department's assessment concluded that the transportation of blades (AR Table 14):
- should be restricted to the State road network and the routes proposed for upgrade by EnergyCo as far as practical; and
 - transportation of blades through Nundle should be restricted to the use of a new private road between Oakenville and Jenkins Streets as illustrated in **Figure 16**. The Department have recommended conditions to have this road decommissioned following the construction phase.
186. Submissions raised concerns regarding the proposed transport routes and their suitability for the transport of large wind turbine components to the Site, including through Devils Elbow. Tamworth Regional Council's submission raised concerns regarding the use of Barry Road and Morrisons Gap Road for heavy vehicle use.
187. Muswellbrook Council had also expressed concerns relating to increased road maintenance costs, safety risks from nighttime OSOM vehicle traffic, and the negative effects on residents from noise, flashing lights, and other disturbances.

Figure 16 – Transport route – Nundle (blades/loads over 5.2m) (AR Figure 14)



Commission's findings

188. The Commission agrees with the Department's recommendations and has imposed Condition 31 requiring the Applicant to use the designated heavy vehicle routes for all Site access and egress related to the Project.

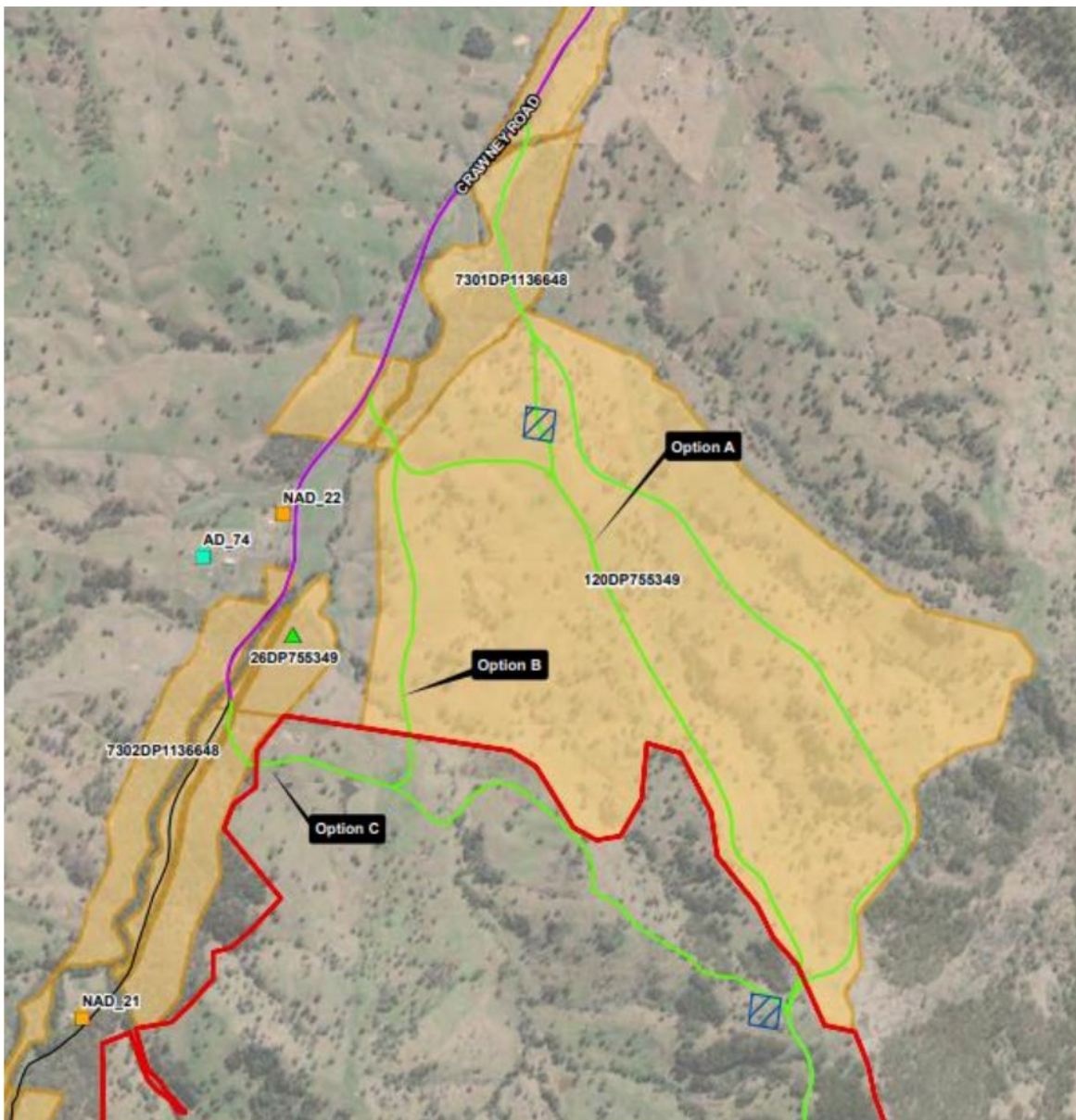
189. In response to concerns raised in submissions about the use of the Devils Elbow option for blade transport, the Commission notes that this route is not included in the Applicant's amended Application.
190. The Commission notes that the upgrades for heavy vehicles under escort in the City of Newcastle and the Muswellbrook Shire LGAs would form part of the route upgrades proposed to be undertaken by EnergyCo or other parts of government to support the renewable energy zones (AR para 177).
191. Considering that the transport route to the Site will use these upgraded roads, the Commission has imposed Condition 31 to restrict blade transportation to Route 1, as identified in **Figures 14 and 15**. The Commission is of the view that the transport route for blades could be appropriately upgraded to facilitate the transportation of large turbine components to the Site. The Commission is of the view that these road upgrades must be undertaken prior to use by OSOM vehicles and has therefore imposed Conditions B32 & B33 to this effect. It has also imposed Condition B36 requiring the preparation and implementation of a Traffic Management Plan (**TMP**).
192. The Commission finds that, with careful management, the traffic and transport impacts during construction and operation along the proposed routes are acceptable and will not significantly affect the local or broader road network. The Commission considers that, with the necessary road upgrades, the requirement for the Applicant to conduct independent dilapidation surveys and undertake any necessary repairs on the proposed routes, along with the implementation of a TMP as stipulated by the imposed conditions, the Project is expected to avoid unacceptable impacts on the capacity, efficiency, or safety of the road network.

5.3.2 Site access

193. The Applicant proposes Site access through three access points via (Second Amendment Report, Appendix A):
- Crawney Road, for OSOM/heavy vehicles and blades;
 - Morrisons Gap Road, for OSOM/heavy vehicles; and
 - Head of Peel Road for emergency access/egress only.
194. To provide access to the southern portion of the Site, including the transport of blades, the Applicant has proposed three options for access via Crawney Road (AR para 170). These options are illustrated in **Figure 17**.
195. The Department's AR concludes that Option B is the most appropriate Site access option, as it would minimise impacts to Teamsters Rest campground and have the least impact to the Crown reserve (AR para 171), where the access point is located.
196. Submissions received by the Commission noted concerns regarding Option B due to there being a lack of evident Crown consent for this access.
197. The Department, in its AR, notes that the:
- Crown reserve is subject to a native title claim. As such, the Applicant will be required to negotiate an Indigenous Land Use Agreement before any Crown land authorisation can be considered. The Department has recommended a condition requiring the Applicant to obtain the necessary authorisations required under the Crown Land Management Act 2016 prior to the commencement of the development (AR para 172).*

198. The Commission, on its Site Inspection, visited the location of the three Crawney Road access options. The Commission agrees with the Department that the most appropriate access option from Crawney Road is Option B. The Commission notes that the Applicant received landowner consent from Crown Lands on 8 April 2024 for the lodgement of applications relating to development comprising SSD-9679 for Lots 7301-7302 DP 1136648, which is the lot on which Option B is located.
199. The landowner of NAD33 raised concerns about potential biosecurity risks due to emergency vehicle access along Head of Peel Road and the impact on agricultural activities on their adjoining land. In response, the Commission has imposed Condition B36 requiring the preparation of a TMP, including details of measures to minimise traffic impacts during construction, upgrades or decommissioning, and provisions for site access and emergency routes. The Commission is satisfied that these measures will effectively address the landowner's concerns.

Figure 17 – Crawney Road site access options (AR Figure 16)



5.3.3 Traffic volumes and management

200. The Department notes that operational traffic will be minimal, with up to four heavy vehicle movements per day related to maintenance and monitoring activities (AR para 175).
201. According to the AR, the construction period for the Project is estimated to be 24 months in duration, with vehicle movements peaking at 78 light vehicles and 63 heavy vehicles per day. A maximum of six heavy vehicles requiring escort are expected to access the Site per day over a nine-month period (AR para 174).
202. Submissions to the Commission expressed concerns about potential conflicts between construction-related vehicles and local traffic, including school buses and logging vehicles, particularly on local roads like Morrisons Gap Road.
203. The Commission considers that Project-related traffic impacts can be effectively mitigated through the imposition of appropriate management measures.
204. The Commission has imposed Condition B36 requiring the Applicant to develop a TMP in consultation with TfNSW, WaterNSW, relevant local councils, and, where relevant to their functions, the Community Consultative Committee (CCC). The TMP must outline the proposed transport routes, necessary road upgrades, and measures to minimise traffic impacts during construction, upgrades, or decommissioning. The TMP is required to include:
- Detailed transport routes for all development-related traffic; and
 - Measures to minimise traffic impacts, including community notifications, and strategies to prevent conflicts with school buses and other road users while avoiding queuing on public roads.

5.3.4 Road maintenance

205. The Commission notes that the proposed transport routes may be subject to weather related impacts and the use of these roads by Project related vehicles may exacerbate damage to Council roads.
206. The Commission has therefore imposed Condition B34 requiring the Applicant to conduct independent dilapidation surveys of Lindsays Gap Road, Nundle Road, Old Hanging Rock Road, Barry Road, Morrisons Gap Road, Herring Street, Innes Street, Jenkins Street, and Crawney Road. The Applicant must also carry out any necessary repairs to restore these roads to a condition equal to or better than their current state, with all repairs to be completed in consultation with the Council.

5.4 Biodiversity

5.4.1 Previous vegetation clearing on the Site

207. The Commission acknowledges the concerns of the community in regard to unlawful clearing that has previously occurred on the Site. As set out by the Department in AR para 186, *“The Department is aware that land clearing has occurred on the project site prior to any approval of vegetation clearing under this development application. The Department acknowledges that some of this clearing has occurred with approval under the Local Land Services Act 2013 (LLS Act), and some areas had been cleared without prior approval and a Biodiversity Conservation Order has been issued for these areas. The Department notes that these cleared areas have been included in the calculation of the offset credit liability for the project”*. The Department also made it clear that it was not implying that the Applicant was involved in any unlawful clearing (Additional Material).

208. The Commission has no role in investigating unlawful clearing or enforcing any applicable laws or regulations relating to the clearing of land. Further, the lawfulness or otherwise of any previous clearing is not a relevant consideration for the Commission in determining the present Application. Accordingly, the Commission cannot consider or give weight to the lawfulness or otherwise of any clearing which has previously occurred on the Site.

5.4.2 Proposed clearing and associated biodiversity impacts

209. As originally described by the Department, the “*Applicant proposes to clear 190.54 ha of native vegetation during construction (64 turbine layout) which would cause direct and indirect impacts to listed threatened flora and fauna species and communities and the potential for impacts to flight paths of birds and bats (avifauna), from changes in air pressure (barotrauma) or collision with turbines (bird and bat strike)*” (AR para 181).
210. The Department also noted that “*Approximately 45% of the construction footprint comprises native vegetation in a landscape characterised by large patches of remnant native vegetation in an otherwise predominantly agricultural land use setting. Ben Halls Gap Nature Reserve is located immediately to the east of the site and Crawney Pass National Park is located to the south-west of the site*” (AR para 182).
211. The Project as originally recommended by the Department (47 turbine Project) would disturb 183.60 ha of native vegetation.
212. The Department updated its assessment in relation to the 62 turbine Project scenario being considered by the Commission. The 62 turbine Project will result in 185.91 ha of clearing, as set out in **Table 6**. That clearing will also directly impact the same area (i.e. the same 185.91 ha footprint) of threatened fauna habitat (**Table 7**). These revised tables and other updates to the biodiversity assessment were provided to the Commission in the Department’s response to the Commission’s request for comment on the draft conditions of consent dated 21 August 2024.
213. The Department (see section 2.4 Biodiversity Impacts of the Department’s response to the Commission dated 24 June 2024 which forms part of the Additional Material), states:
- The Department’s Assessment Report recommended removing turbines T24 and T28 to reduce impacts on the Ribbon Gum Mountain Gum Snow Gum by 3.53 ha and threatened species habitat for species including the Koala, Barking Owl and Large eared Pied bat.*
- The Applicant has accepted the deletion of T24 and is only seeking the reinstatement of T28, which would require clearing approximately 1.5 ha of the endangered ecological community which is in good condition.*
- Should the Commission Panel agree with the advice from the Applicant and the IEAPET that the feasibility of project is dependent on the approval of 62 turbines, the Department considers the benefits of the project outweighs the relatively minor biodiversity impacts of reinstating T28.*
- The Department notes that although construction of this turbine would require clearing of an endangered ecological community, all clearing would be offset through the biodiversity offset scheme and the recommended conditions of consent require the Applicant to minimise the clearing of native vegetation and key fauna habitat, including hollow bearing trees, within the development footprint and protect native vegetation and key fauna habitat outside the approved disturbance area in accordance with limits in the recommended conditions.*
214. The Department and Biodiversity Conservation and Science Group within NSW DCCEEW (**BCS**) consider that all communities, including those listed under the *Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)*, have been correctly identified and assessed (AR para 192). Neither party contested the updated figures set out in **Tables 6** and **7**.

Table 6 – Updated clearing limits and offset liability for native vegetation (from Attachment C to Department’s response to the Commission’s request for comment on the draft conditions of consent, dated 21 August 2024).

Plant Community Type	Associated TEC	BC Act	EPBC Act	Impact (hectares)	Ecosystem credit liability
84 - River Oak - Rough-barked Apple - red gum - box riparian tall woodland (wetland) of the Brigalow Belt South Bioregion and Nandewar Bioregion	-	-	-	0.07	3
433 - White Box grassy woodland to open woodland on basalt flats and rises in the Liverpool Plains sub-region, BBS Bioregion	White Box Yellow Box Blakely's Red Gum Woodland and derived native grassland	CE	CE	0.02	2
434 - White Box grass shrub hill woodland on clay to loam soils on volcanic and sedimentary hills in the southern Brigalow Belt South Bioregion	White Box Yellow Box Blakely's Red Gum Woodland and derived native grassland	CE	CE	0.01	1
486 - River Oak moist riparian tall open forest of the upper Hunter Valley, including Liverpool Range	-	-	-	4.50	167
490 - Silvertop Stringybark - Forest Ribbon Gum very tall moist open forest on basalt plateau on the Liverpool Range, Brigalow Belt South Bioregion	-	-	-	1.88	69
492 - Silvertop Stringybark - Yellow Box - Apple Box - Rough-barked Apple shrub grass open forest mainly on southern slopes of the Liverpool Range, Brigalow Belt South Bioregion	White Box Yellow Box Blakely's Red Gum Woodland and derived native grassland	CE	CE	3.15	115
507 - Black Sallee - Snow Gum grassy woodland of the New England Tableland Bioregion	-	-	-	0.09	3
526 - Mountain Ribbon Gum - Messmate - Broad-leaved Stringybark open forest on granitic soils of the New England Tableland Bioregion	-	-	-	0.75	43
538 - Rough-barked Apple - Blakely's Red Gum open forest of the Nandewar Bioregion and western New England Tableland Bioregion	-	-	-	0.06	4
540 - Silvertop Stringybark - Ribbon Gum - Rough-barked Apple open forest on basalt hills of southern Nandewar Bioregion, southern New England Tableland Bioregion and NSW North Coast Bioregion	-	-	-	66.05	2164
540 - Silvertop Stringybark - Ribbon Gum - Rough-barked Apple open forest on basalt hills of southern Nandewar Bioregion, southern New England Tableland Bioregion and NSW North Coast Bioregion	Ribbon Gum—Mountain Gum—Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion	E	-	1.41	56
541 - Silvertop Stringybark - Rough-barked Apple grassy open forest of southern Nandewar Bioregion, southern New England Tableland Bioregion and NSW North Coast Bioregion	-	-	-	30.15	1044
586 - Snow Grass - Swamp Foxtail tussock grassland sedgeland of cold air drainage valleys of the New England Tableland Bioregion	-	-	-	2.56	53
599 - Blakely's Red Gum - Yellow Box grassy tall woodland on flats and hills in the Brigalow Belt South Bioregion and Nandewar Bioregion	White Box Yellow Box Blakely's Red Gum Woodland and derived native grassland	CE	CE	3.59	224
931 - Messmate - Mountain Gum tall moist forest of the far southern New England Tableland Bioregion	-	-	-	4.45	132
934 - Messmate open forest of the tableland edge of the NSW North Coast Bioregion and New England Tableland Bioregion	-	-	-	24.09	682
954 - Mountain Ribbon Gum - Messmate open forest of escarpment ranges of the NSW North Coast Bioregion and New England Tableland Bioregion	-	-	-	1.23	69
1194 - Snow Gum - Mountain Gum - Mountain Ribbon Gum open forest on ranges of the NSW North Coast Bioregion and eastern New England Tableland Bioregion	-	-	-	26.20	729
1194 - Snow Gum - Mountain Gum - Mountain Ribbon Gum open forest on ranges of the NSW North Coast Bioregion and eastern New England Tableland Bioregion	Ribbon Gum—Mountain Gum—Snow Gum Grassy Forest/Woodland of the New England Tableland Bioregion	E	-	15.59	427
1604 - Narrow-leaved Ironbark - Grey Box - Spotted Gum shrub - grass woodland of the central and lower Hunter	-	-	-	0.02	1
1691 - Narrow-leaved Ironbark - Grey Box grassy woodland of the central and upper Hunter	-	-	-	0.04	2

215. The Department states that, “Of the 33 candidate threatened fauna species considered to have potential habitat within the site, 14 species were identified or assumed present during targeted site surveys” (AR para 198). These species are listed in **Table 7** and no change to the list of species was identified through the Department’s response to the Commission’s request for comment on the draft conditions of consent, dated 21 August 2024.

Table 7 – Updated clearing limits and offset liability for threatened fauna (from Attachment C to Department’s response to the Commission’s request for comment on the draft conditions of consent, dated 21 August 2024)

Species	Common name	BC Act	EPBC Act	Impact (hectares)	Species credit liability
<i>Chalinolobus dwyeri</i>	Large-eared Pied Bat	V	V	17.26	529
<i>Vespadelus troughtoni</i>	Eastern Cave Bat	V	-	17.26	529
<i>Myotis macropus</i>	Southern Myotis	V	-	3.97	91
<i>Cercartetus nanus</i>	Eastern Pygmy-possum	V	-	21.86	839
<i>Phascolarctos cinereus</i>	Koala	E	E	44.80	1591
<i>Petaurus norfolcensis</i>	Squirrel Glider	V	-	15.01	540
<i>Litoria booroolongensis</i>	Booroolong Frog	E	E	0.85	42
<i>Uvidicolus sphyrurus</i>	Border Thick-tailed Gecko	V	V	0.18	8
<i>Ninox strenua</i>	Powerful Owl	V	-	14.94	485
<i>Tyto tenebricosa</i>	Sooty Owl	V	-	1.99	114
<i>Ninox connivens</i>	Barking Owl	V	-	80.19	3321
<i>Tyto novaehollandiae</i>	Masked Owl	V	-	14.98	541
<i>Petauroides volans</i>	Southern Greater Glider	E	E	33.81	1162
<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V	E	43.13	0

5.4.3 Bird and bat strike

216. The Applicant’s Revised Biodiversity Assessment Report, dated 25 May 2023 (**Revised BDAR**), included an assessment of collision risks to birds and microbats. Of the 34 bird species, 30 are considered a low risk of blade strike. The following four species are considered to be subject to a moderate risk of impact from blade strike (Revised BDAR, page 524):
- Little Eagle – Vulnerable, *Biodiversity Conservation Act 2016* (**BC Act**)
 - Nankeen Kestrel (not listed)
 - Square-tailed Kite – Vulnerable, BC Act
 - Wedge-tailed Eagle (not listed)
217. According to the Applicant’s Revised BDAR, of the 23 bat species considered in the strike assessment, 18 are considered to be low risk. A moderate risk of blade strike is anticipated for the following nine species of bat (Revised BDAR, page 512):
- White-striped Free-tailed Bat – (not listed)
 - Large-eared Pied Bat – Vulnerable, BC Act and Vulnerable, EPBC Act
 - Eastern False Pipistrelle – Vulnerable, BC Act
 - Eastern Coastal Free-tailed Bat – Vulnerable, BC Act
 - Little Bent-winged Bat – Vulnerable, BC Act
 - Eastern Bent-winged Bat – Vulnerable, BC Act
 - Yellow-bellied Sheath-tailed Bat – Vulnerable, BC Act – Vulnerable, BC Act
 - Greater Broad-nosed Bat – Vulnerable, BC Act
 - Little Broad-nosed Bat (not listed)

218. In response to concerns raised by BCS and National Parks and Wildlife Service (**NPWS**), the Applicant proposed to prepare and implement a smart curtailment strategy (i.e. defining triggers that would modify the operation of the turbines to minimise the risk of blade strike) for all turbines rated at a moderate risk of blade strike to avifauna (AR para 207). The smart curtailment strategy would be detailed in a Bird and Bat Adaptive Management Plan (**BBAMP**) and involve (AR para 208):
- restricting free-wheeling of all turbines (spinning before energy generation) below a predetermined cut-in wind speed prior to commencement of energy generation;
 - curtailment of moderate risk turbines below the cut-in speed of 5.5 m/s; and
 - curtailment of turbines based on acoustic monitoring.
219. BCS, in its advice to the Department dated 10 January 2023, supported the mitigation and monitoring measures proposed by the Applicant.

5.4.4 Serious And Irreversible Impacts (SAII)

220. The concept of serious and irreversible impacts (**SAII**) is a central component of the NSW Biodiversity Offsets Scheme and is aimed at protecting threatened species and threatened ecological communities that are most at risk of extinction from potential development-related impacts.
221. The Applicant's Revised BDAR (page 22) states:
- The potential for a direct SAII to cave dwelling microbats and their potential breeding habitat have been avoided through the removal and relocation of specific turbines from the project footprint. The potential for an operational SAII is considered to be highly unlikely as a result of the proactive 'smart curtailment' and reactive (triggered) curtailment strategies committed to be the Proponent. The potential for SAII to Box Gum Woodland CEEC is also considered unlikely, and has been further minimised through project design, and it is considered that the current level of proposed impact is a worst case and can be mitigated against, and reduced during future design stages.*
222. The Department states at AR para 200 that:
- Four species recorded during site surveys are potential SAII entities, being the Large-eared Pied Bat, Large Bent-winged Bat, Little Bent-winged Bat and Eastern Cave Bat. The Department and BCS accept that the development corridor is unlikely to support breeding habitat for these species and the potential impact on foraging habitat for the Large-eared Pied Bat and Eastern Cave Bat would be offset via the species credit offset requirement.*
223. The White Box – Yellow Box – Blakely's Red Gum Grassy Woodland and Derived Native Grassland Critically Endangered Ecological Community (**Box-Gum Woodland**) is the only SAII entity identified by the Department as being impacted by the Project (AR para 193).
224. BCS confirmed in its advice that the Project is not considered likely to significantly reduce the extent of the Box Gum Woodland at the national, bioregional or local scales, and the Project will not lead to a reduction in the geographic distribution of Box Gum Woodland (AR para 193).

5.4.5 EPBC matters

225. The Commission notes that the Department's assessment considered the potential impacts of the project on biodiversity-related controlling provisions under the EPBC Act in Appendix K to the Department's AR.

5.4.6 Commission's findings

226. The Commission finds that the biodiversity impacts of the 62 turbine Project, including the grant of development consent for turbine T28, are acceptable and can be managed, subject to the conditions of consent and the residual biodiversity impacts of the Project being offset. The conditions imposed by the Commission to achieve this include:
- Conditions B23 and B24 – requiring the Applicant to limit and minimise clearing and biodiversity impacts, including through micro-siting of the turbines and other aspects of the development;
 - Conditions B25 and B26 – requiring the Applicant to offset biodiversity impacts in accordance with the NSW Biodiversity Offsets Scheme;
 - Condition B27 – requiring the Applicant to prepare a Biodiversity Management Plan setting out biodiversity impact mitigation measures and monitoring and reporting arrangements.
227. The Commission agrees with the Department and BCS and is satisfied that the risk of bird and bat strike can be effectively managed through the implementation of a BBAMP, as required by Condition B28 imposed by the Commission. This plan must include:
- at least 12 months' worth of baseline data on threatened and 'at risk' bird and bat species and populations in the locality that could be affected by the development;
 - a description of other measures that would be implemented on site for minimising bird and bat strike during operation of the development;
 - an adaptive management program that would be implemented if the development is having an adverse impact on a particular threatened or 'at risk' bird and/or bat species or populations;
 - a detailed program to monitor and publicly report on the effectiveness of these measures and any bird and bat strike on Site; and
 - all raw data collected as part of the monitoring program to be submitted to BCS of NSW DCCEE and the Planning Secretary.
228. The Commission acknowledges the concerns raised by BCS, NPWS and Tamworth Regional Council regarding the risk of blade strike to avifauna due to the proximity of turbines to habitat features such as tree canopies, hollow bearing trees and Ben Halls Gap Nature Reserve (AR para 184). The Commission has therefore imposed Condition A7 which states that no turbine may be located within 135 metres from the surveyed boundary of Ben Halls Gap Nature Reserve in addition to Condition B28.
229. In consideration of the Material, including the advice of the Department and BCS, the Commission has also determined that the residual impacts of the Project on biodiversity values (that is, the impacts that would remain after any proposed avoidance or mitigation measures have been taken) are not serious and irreversible.

5.5 Socio-economic

230. According to the Department, the Project would create social benefits in the local community through job creation and economic opportunities. The Applicant has also proposed to enter into Voluntary Planning Agreements (**VPAs**) with Tamworth Regional Council and Upper Hunter Shire Council.
231. The Department also acknowledged the potential negative impacts include increased pressure on local services and facilities affecting the social dynamics of the community (AR Table 17).

232. Public submissions also raised concern regarding the potential impacts of the Project on property values. According to the Department a study commissioned in 2016 by OEH (now BCS) regarding the impacts of wind farm development in NSW concluded that they are unlikely to have a measurable negative impact on surrounding land values in rural areas. The Department advises that the Project would not result in any significant or widespread reduction in land values in the areas surrounding the Project (AR Table 17).
233. The Department was of the view that the potential Project impacts on tourism in Nundle related mainly to visual and traffic impacts. The Commission notes submissions raised concerns of the impact on tourism and visitor expenditure. The Department considered that the Project would not dominate views from the village of Nundle and that traffic impacts during construction would be managed through a TMP and the conditions requiring road upgrades and limiting the transport routes.

Commission's findings

234. The Commission acknowledges that the lengthy and complex consultation and development assessment processes associated with the Project have impacted local communities.
235. The Commission agrees with the Department and is of the view that subject to the imposed conditions of consent, the potential visual and traffic impacts would not have a significant impact on tourism in the locality (AR Table 17). The Commission also agrees with the Department that the Project would not result in any significant or widespread reduction in land values in the areas surrounding the development.
236. The Commission acknowledges the concerns raised in submissions regarding the potential impacts on local employment and accommodation. The Commission has imposed Condition B49 which requires the Applicant to prepare an Accommodation and Employment Strategy in consultation with Tamworth Regional Council, Upper Hunter Shire Council and Liverpool Plains Shire Council. This Strategy must propose measures to ensure there is sufficient accommodation for the workforce and consider the cumulative impacts associated with other State significant development projects in the area.
237. The Commission considers that the Project would have an overall positive social and economic impact, at least in the wider region and State. In addition to its contribution to the renewable energy transition, the Project would generate direct and indirect benefits including:
- up to 200 construction jobs and 28 operational jobs;
 - up to \$11.6 million in contributions to Tamworth Regional Council and Upper Hunter Shire Council through voluntary planning agreements for community enhancement projects, with a focus on community projects in the area surrounding the Site; and
 - over \$826 million in capital investment into the NSW economy.
238. The Commission has therefore imposed Conditions A22 and A23 which state that prior to commencing construction, the Applicant must enter into a VPA with Tamworth Regional Council and Upper Hunter Shire Council.
239. A further Condition A24 has been imposed to require the Applicant to make a monetary contribution to Tamworth Regional Council should they not agree to enter into a VPA in accordance with Condition A23. Although the expenditure of these funds is a matter for Council, consideration should be given to projects located in Nundle and Hanging Rock.
240. To ensure substantive and ongoing communication between the Applicant and the community through all phases of the Project, the Commission has imposed Condition A21 which states the Applicant must establish and operate a Community Consultative Committee in accordance with the Department's guideline.

241. Subject to the imposed conditions, the Commission is of the view the Project has the capacity to provide an overall benefit to the regional community and State of NSW.

5.6 Noise and Vibration

242. The Project's potential noise and vibration impacts primarily relate to the 24-month construction period, traffic movements, operational noise and the subsequent decommissioning process.
243. The Applicant's Noise and Vibration Assessment dated October 2020 (**NVA**), submitted as part of the EIS predicts that during the 24-month construction period, seven non-associated receivers would be affected by noise greater than 45 dB(A), but well below the highly noise affected criterion of 75 dB(A). As the Department notes, the NVA is conservative, and assumes all plant and equipment is used concurrently under weather conditions most conducive to noise propagation. Further, the Department considers that construction works can be managed in accordance with requirements outlined in the ICNG (AR Table 17). The Commission accepts the Department's view and has imposed Condition B6, to restrict construction hours and Condition B10, to ensure the Applicant adequately manages noise generated by construction and decommissioning activities.
244. The Department acknowledges that there may be some instances where construction activities, such as concrete pouring and turbine erection, may be time or climate sensitive, requiring construction to occur outside standard construction hours (AR Table 17). The NVA identifies that outside of standard hours, the noise from temporary batching may exceed 35 dB(A) at 2 dwellings and the noise from concrete pouring may exceed 35 dB(A) at 7 locations. Noting this, the Commission has imposed Condition B8 which permits the variation of construction hours, subject however to prior written permission of the Planning Secretary. The condition requires any requests for a variation to construction hours to be adequately justified and accompanied by a noise impact assessment and evidence of consultation with sensitive receivers.
245. The Commission accepts the Department's advice that the Project's construction vibration impacts would comply with the criteria provided in the Vibration Guideline. Consistent with the NVA's recommendation and the Applicant's stated commitments, the Commission has imposed Condition B11 which requires the Applicant to comply with specific vibration limits to minimise human exposure and structural impacts to buildings.
246. The Commission also agrees with the Department that the Project's construction traffic noise impacts would comply with the NSW Road Noise Policy (DECCW, 2011). Consistent with the Applicant's stated commitments, the Commission has imposed Condition B9 which requires the Applicant to take all reasonable steps to minimise the construction and decommissioning noise of the development, including any associated traffic noise. Condition B36 imposed by the Commission also requires the Applicant to prepare a TMP. The TMP requires that the Applicant must detail the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works, including (but not limited to) details of development traffic movements, cumulative impact mitigation methods, notifying the local community of traffic-related impacts and complaints handling processes and procedures. The TMP must be prepared in consultation with TfNSW, WaterNSW, local Councils and, where relevant, the CCC.

247. The Department's AR (Table 17) notes that blasting activities may be required to remove rock when excavating turbine footings. The Department has recommended specific conditions to mitigate any potential noise and vibration impacts, which the Commission agrees with. Condition B12 has been imposed by the Commission which restricts blasting to between 9 am and 5 pm on weekdays and 9 am to 1 pm on Saturdays. Additionally, the condition specifies criteria for airblast overpressure and ground vibration blasting which must be complied with at all non-associated residences.
248. The Department's AR (Table 17) provides operational noise levels for the Project which were assessed in accordance with the *Wind Energy: Noise Assessment Bulletin (2016) (Noise Bulletin)*. The Applicant's noise impact assessment identified that with mitigation measures (a curtailment regime to operate turbines T52-58 and T68-T70 in a noise reduced mode (AR, Table 17)), noise levels at all sensitive receivers will comply with the Project's environmental noise criteria, except for sensitive receiver DAD01.
249. With the proposed curtailment regime, turbines T53-T61 will still adversely impact DAD01, as it will experience exceedances of the Project's noise criteria. Deletion of turbines T52-T61 would be required as the means to fully mitigate the noise impacts on DAD01 (AR, Table 17). Through the Department's correspondence to the Commission dated 24 June 2024, the Applicant acknowledges that visual and noise impacts cannot be fully mitigated for sensitive receiver DAD01. However, as discussed in Section 5.1, based on advice from the IEAPET, the Department acknowledges that the deletion of these turbines will result in the Project being unviable. The Department has recommended that it is in the public interest to approve a total of 62 turbines, including turbines T53-T61, to provide 372MW of renewable energy to NSW. Accordingly (as per the visual impact assessment), the voluntary acquisition for the land comprising DAD01 has been recommended by the Department.
250. The Department's AR (Table 17) states that both the Department and the EPA consider that the operational noise impacts of the Project can comply with the requirements of the Noise Bulletin. As outlined above, the Commission notes that sensitive receiver DAD01 is an exception to this statement.

Commission's findings

251. In consideration of the Department's assessment, mitigation measures committed to by the Applicant, and the imposed conditions, the Commission is satisfied that the Project's noise and vibration impacts will be adequately minimised and mitigated (sensitive receiver DAD01 excepted). The Commission has imposed Conditions B13 and B14 to ensure the Project's operational noise criteria for wind turbines and ancillary infrastructure at non-associated residences is not exceeded. DAD01 is excluded from these conditions due to its proximity to the proposed turbines. To support compliance with conditions of consent, Condition B15 has been imposed to require noise monitoring and reporting within 6 months of the commencement of operations (or the commencement of operation of a stage, if the development is to be staged).
252. With noise impacts at DAD01 unable to be mitigated, as per the Commission's findings for the Project's visual impacts (see Section 5.2.3), the Commission has imposed Condition B1, allowing for the owner of the land including DAD01 to request that the Applicant acquire their land.

5.7 Decommissioning and Rehabilitation

253. The Commission received submissions that raised concern about responsibilities and commitments for decommissioning and rehabilitation, particularly the mechanisms in place to prevent potential abandonment of the Project before decommissioning and rehabilitation are completed. Upper Hunter Shire Council's submission noted that the Applicant should be required to provide some form of financial assurance to ensure decommissioning and rehabilitation takes place.
254. The Department stated in its meeting with the Commission on 21 January 2024 that it "*is the New South Wales Government's policy that financial assurances should not be required by conditions of consent and any financial assurances should be dealt with in commercial arrangements outside of the planning system*" (Meeting Transcript, page 11).

Commission's findings

255. The Commission finds that the Applicant's decommissioning and rehabilitation arrangements are suitable in view of the applicable Government policy guidance. With the implementation of objective-based conditions and monitoring requirements, the Commission finds that the Project is capable of being decommissioned and the Site is capable of being rehabilitated appropriately. The Commission has imposed Condition B50 requiring the Applicant to prepare a Decommissioning and Rehabilitation Plan for the development, including progressive rehabilitation. The Plan is required to be updated by the Applicant half-way through the operational life of the Project and within 2 years prior to decommissioning.

5.8 Other Issues

5.8.1 Aboriginal cultural heritage

256. The Applicant's Aboriginal cultural heritage assessment report identified eight sites in the Project area comprising three isolated finds, four artefact scatters and one potential archaeological deposit (**PAD**). Most were of low overall significance except for the PAD and two artefact scatters (AR Table 17).
257. The Applicant has committed to surface collection and relocation of items in consultation with Aboriginal stakeholders to suitable alternative locations where impacts on these items cannot be avoided.
258. The Commission acknowledges that Aboriginal sites and the broader landscape hold cultural value and significance, and that the loss of intrinsic Aboriginal cultural values cannot be offset. However, the Commission finds that subject to the Department's recommended conditions, the potential impacts on Aboriginal cultural heritage values can be appropriately managed. The Commission has imposed Condition B29, requiring the Applicant to ensure the development does not cause any direct or indirect impacts to Aboriginal heritage items, implement measures to avoid and minimise harm, and, when necessary, appropriately salvage and relocate any affected items. The Commission has also imposed Condition B30, requiring the Applicant to develop a heritage management plan setting out the strategy and measures to manage Aboriginal heritage items in consultation with Aboriginal stakeholders.

5.8.2 Non-indigenous heritage

259. The Department's AR assesses the potential non-indigenous heritage impacts of the Project in Table 17 of the AR.

260. The Applicant has committed to transport routes which have been designed to reduce potential impacts on the heritage character of Nundle village, as well as on locally listed heritage items including the Black Snake Gold Mine. These commitments involve alternate routing to avoid impacts and the timely removal and rehabilitation of the access road through the Peel Inn curtilage (AR Table 17) as well as measures such as dilapidation surveys for the Nundle Shire Council Offices.
261. The Commission has imposed Condition B30, requiring the development of a heritage management plan in consultation with Heritage NSW and Council. The Commission finds that subject to the implementation of the imposed conditions, the potential impacts on heritage values would be appropriately managed.

5.8.3 Soils and erosion

262. The EIS included an assessment of the Site's soils, concluding that there is a moderate to high erosion risk across the Site. In areas with slopes greater than 20% or where concentrated flows occur, specialised erosion and sediment controls are proposed by the Applicant (AR pages 68-69).
263. The Department engaged technical expert David Piccolo of Pell Sullivan Meynink (**PSM**), to provide an independent expert review on matters relating to the constructability of the Project and the management of soil and water impacts. The Department and PSM considers that appropriate mitigation measures and strategies to manage erosion and sedimentation impacts can be developed and implemented during the detailed design stage within the proposed development corridor and predicted disturbance limits (AR page 69).
264. The Commission agrees with the Department and finds the implementation of best practice control measures can adequately manage the risks. The Commission has imposed several conditions to address these matters:
- Condition B19 identifies that it is an offence to pollute waters other than in accordance with an Environmental Protection Licence (**EPL**);
 - Condition B20, requiring the Applicant to minimise erosion and sediment generation and to undertake activities in accordance with applicable guidelines;
 - Condition B21, requiring the Applicant to manage water flows and flooding;
 - Condition B22, requiring the Applicant to prepare and implement a soil and water management plan to specify the measures to be put in place to manage these risks and publicly report on progress.

5.8.4 Water supply

265. The Applicant proposes to obtain the 55 ML of water required for the construction of the Project from sources licensed under either the *Water Act 1912* or *Water Management Act 2000* and subject to the relevant regulatory controls. Operational water supply will be sourced from runoff captured onsite or from nearby dams in Hanging Rock State Forest, under an arrangement with Forestry Corporation NSW (AR Table 17).
266. The Commission agrees with the Department, including within NSW DCCEEW (**Water Group**) and WaterNSW and finds that the Project's proposed water supply requirements are unlikely to have any significant impact on regional water supply and demand, subject to the Applicant obtaining all necessary licences under the *Water Act 1912* and the *Water Management Act 2000*.

267. The Commission acknowledges the concerns raised in submissions regarding the impact of the Project on surrounding waterways and groundwater supplies. The Commission has imposed Condition B18, requiring the Applicant to ensure the Project has sufficient water for all stages of the development and to adjust the scale of the development to match the available water supply if necessary. The Commission has also imposed Condition B22 which requires the Applicant to prepare and implement a Soil and Water Management Plan in consultation with Water Group, WaterNSW and NSW Department of Primary Industries and Regional Development.
268. The Commission notes that potential pollution of waterways and groundwater resulting from the Project would be managed through Condition B19 and other regulatory mechanisms such as an EPL issued by the Environment Protection Authority (**EPA**). Pollution, including any necessary monitoring, would be regulated by the EPA through an EPL for the Project. The EPA conducts risk assessments for all projects requiring an EPL to identify site-specific risks and environmental issues that must be addressed in the licence.

5.8.5 Hazards and risks

Bushfire risk

269. The Commission acknowledges that the Project is sited on bushfire prone land and that there is potential for malfunctions in the BESS and other electrical components, including the turbines themselves, to start a fire. The Commission also acknowledges community concerns about access constraints for firefighting services and bushfire risks associated with landscaping and screening plantings for the mitigation of visual impacts.
270. The Commission agrees with the Department, NPWS, NSW Rural Fire Service (**RFS**) and Fire and Rescue NSW and is satisfied that the bushfire risks associated with the Project can be suitably managed through the implementation of standard fire management plans and procedures (AR Table 17).
271. The Commission has therefore imposed Condition B46, requiring the Applicant to minimise the fire risks of the development, including through compliance with RFS's *Planning for Bushfire Protection 2019*, the relevant best practice bushfire protection standards in NSW.

Electric and magnetic fields

272. The Commission acknowledges that submissions raised concern regarding the potential health effects resulting from electric and magnetic fields (**EMF**) emanating from the Project's wind turbines and ancillary infrastructure.
273. The Department's AR (Table 17) notes that sources of EMF from the Project include the substation, BESS, electrical equipment within the turbine and high voltage transmission lines.
274. The AR also notes that EMF levels diminish rapidly with distance, and that the Applicant has prudently set back Project components generating EMF by over 700 meters from any existing residential dwellings (AR Table 17).
275. Additionally, the Department highlights that the Applicant's EIS indicates EMF levels would be significantly lower than the current internationally acceptable level for human health outlined in the *International Commission on Non-Ionizing Radiation Protection* guidelines (AR Table 17).

276. The Applicant's EIS refers to research that has been conducted on wind turbine emissions of EMF and concludes that, "*EMF levels from wind turbines were at such a low level they were insignificant compared to values found in residential areas and homes*" (EIS page 262).
277. The Commission agrees with the Department's assessment and is satisfied the Project is unlikely to have any significant EMF related impacts to nearby dwellings, including the approved dwelling at DAD01.

Blade and ice throw

278. The Commission acknowledges the concerns expressed by nearby receivers and other submitters regarding the potential risks of blade and ice throw from the turbines and impacts on public safety. Tamworth Regional Council also raised these concerns.
279. As the Department notes, the Applicant's Preliminary Hazards Analysis, dated August 2021, concludes that (AR Table 17):
- there is a very low likelihood of blade throw risk to off-site receivers and the proposed location of the operational facilities would be beyond the risk of impact from blade throw; and
 - the maximum ice throw distance estimated of 473m is less than the distance between a proposed turbine and the closest existing dwelling (an associated dwelling, being AD05).
280. The Commission accepts the findings of the Applicant's Preliminary Hazards Analysis and concludes that the Project is unlikely to present significant risks of blade or ice throw to the community.
281. To ensure these risks are appropriately managed, the Commission has imposed Condition 43 requiring the Applicant to minimise the risk of blade and ice throw by implementing appropriate measures that may include: monitoring the condition of turbine blades; monitoring the risk of ice accumulation; deactivating turbines as necessary; and placing warning signs and access barriers as appropriate for the protection of site personnel and the public.
282. The Commission has also imposed Condition A15 requiring the Applicant to repair any public infrastructure damaged by the Project.

Radiocommunications

283. The Commission acknowledges concerns that wind farms and other tall obstacles have the potential to cause interference with telecommunication systems. The Applicant has committed to conduct a pre-construction assessment to establish the baseline reception strength of NPWS radio communications, and to implement measures to reduce impacts if required.
284. The NSW Telco Authority advised that the Project would not interfere with the Public Safety Network. The Applicant's own electromagnetic interference assessment concluded that the Project is unlikely to impact all other significant telecommunication links (AR Table 17).
285. The Commission finds that the Project is unlikely to cause unacceptable impacts on radiocommunications, given the imposition of Condition B42, requiring the Applicant to make good any disruption to any radio communication services.

5.8.6 Aviation safety

286. The Project is located 52 km east of Quirindi Airport and 52 km north of Scone Airport (AR Table 17). The Department received advice from Airservices Australia, Department of Defence, CASA and NPWS in relation to the Project and its potential impacts on aviation safety, with Airservices Australia commenting that the Project would require a permanent amendment to the operating procedures at Scone Airport and that CASA considers the Project to be a hazard to aviation safety.
287. In response to this advice, the Applicant has committed to ensure appropriate aviation safety by (refer AR Table 17):
- reaching commercial agreements with Airservices Australia to amend flight procedures as required, and consultation with Scone Airport and aircraft operators should the Project proceed;
 - providing the location and height of wind turbines and monitoring masts to landowners to be shared with aerial application pilots on an ongoing basis through the construction phase;
 - installing low intensity obstacle lighting (200 candela) on turbines in line with CASA requirements (discussed in detail in Section 5.2.8 above);
 - the top third of wind monitoring masts would also be painted in alternating contrasting bands of colours in accordance with the Manual of Standards Part 139 (Aerodromes) of the *Civil Aviation Safety Regulations 1998*; and
 - consulting with CASA, Airservices Australia and any relevant aerial agricultural or firefighting operators to communicate the final turbine coordinates and heights prior to construction of any wind turbines or meteorological monitoring masts;
288. The Commission has imposed Condition B4, which requires the Applicant to consult with CASA regarding night-time obstacle lighting requirements and ensure that any aviation hazard lighting complies with CASA's recommendations. The Commission has also imposed Condition B37 relating to mitigation of aviation related impacts, which requires the Applicant to carry out the development in accordance with the *National Airports Safeguarding Framework Guideline D: Managing the Risk to Aviation Safety of Wind Turbine Installations (Wind Farms)/Wind Monitoring Towers*, and Conditions B38 to B41, which set out the notification requirements for aviation authorities.

5.8.7 Waste

289. The Commission is satisfied with the Department's assessment of the Project's potential waste generation and contamination impacts and notes that none of the Councils that it met with raised concern regarding these issues.
290. The Commission considers that the waste generated by the Project can be appropriately managed and has imposed Condition B48 to ensure the Applicant minimises, appropriately manages and disposes of waste generated by the Project.

5.8.8 Air quality

291. The Commission notes that submissions raised concern about dust generation and impacts on air quality, particularly with regard to the construction period, vehicle emissions, road upgrades, and blasting operations.
292. The Department notes that the Applicant has committed to a number of mitigation measures to manage potential air quality impacts, including dust suppression and inspections and maintenance of vehicles to ensure operational efficiency (AR Table 17).
293. The Commission has imposed the following conditions to address air quality:

- Condition B17 which requires the Applicant to take all reasonable steps to minimise offsite dust, fume and blast emissions of the development, and surface disturbance of the site;
- Condition B33 which requires the Applicant to upgrade:
 - Morrisons Gap Road to the proposed sealed standard prior to the use by heavy vehicles; and
 - Crawney Road to the proposed sealed standard prior to the commencement of construction; and
- Condition B35 which requires the Applicant to ensure all development-related vehicles leaving the Site are in a clean condition to minimise dirt being tracked onto the sealed public road network.

294. The imposed conditions would ensure that off-site dust and fume impacts are minimised, and surface disturbances are reduced to prevent significant effects on local air quality.

5.8.9 Subdivision

295. The Department notes that subdivisions will be required for two parcels of land - the switching yard located on Lot 64 DP 751023 and the substation and BESS located on Lot 3 DP1103716 (AR Table 17).

296. The Commission agrees with the Department and finds that the proposed subdivision is necessary for transfer of the substation to TransGrid and the ongoing operation of the Project, and should be approved for the reasons given at Table 17 of the AR. The Applicant is required to subdivide the Site in accordance with Condition A17 imposed by the Commission.

6. The Commission's Findings and Determination

6.1 Public Interest

297. The Commission is of the view that the public interest is not served by the grant of development consent to an unviable or unworkable Project. Accordingly, in determining the Application, the Commission has declined to modify the Application by removing further turbines (beyond those contemplated in IEAPET's viable scenario) from the Project.

298. The Commission has considered whether the grant of consent to the Application for a 62 turbine Project would be in the public interest. In doing so, the Commission has weighed the predicted benefits of the Application against its predicted negative impacts. The Commission acknowledges that the 62 turbine Project would provide 372 MW of renewable energy. The Commission is of the view that this would facilitate social and economic benefits for the wider community and for the State of NSW. The Commission also finds that the Project would contribute to the orderly transition from traditional coal and gas fired power generation to power generation with lower emissions and would assist in meeting Australia's and NSW's target of net zero emissions by 2050.

299. The Commission finds that on balance, the likely benefits of the 62 turbine Project warrant the conclusion that an appropriately conditioned approval is in the public interest.

6.2 Determination

300. 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), as well as in oral presentations to the Commission at the Public Meeting. The Commission carefully considered all of these views in making its decision.
301. The Commission has carefully considered the Material before it as set out in Section 3.1 of this Statement of Reasons, and has weighed the broader strategic, social and economic benefits of renewable energy generation in the context of the impacts on the environment and local amenity of residents which were set out in Section 5.
302. 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 up to 372 MW of renewable energy, contributing to the transition to lower emissions energy generation;
 - the Site is suitable for renewable energy development given its proximity to existing electricity transmission networks, topography, wind resources, access to the regional road network and avoidance of major environmental constraints;
 - visual impacts on sensitive receivers would be limited, and where required would be mitigated by methods including vegetation screening;
 - the visual impact from public viewpoints would not be significant due to the distance, intervening topography and existing vegetation;
 - the impacts of the Project on the character of the landscape are acceptable and can be suitably mitigated. After the cessation of operations, the Site would be rehabilitated and returned to near its pre-development condition and character;
 - traffic and transport impacts during construction, operation and decommissioning are acceptable and would be mitigated as far as practical;
 - the Project has avoided environmental impacts where possible and biodiversity impacts would be offset in accordance with the NSW Biodiversity Offset Scheme;
 - bushfire risks can be suitably controlled through the implementation of fire management plans and procedures;
 - the Project would not significantly impact on Aboriginal heritage values;
 - the Project would generate direct and indirect benefits to the local and regional community;
 - the Project would not impact long-term agricultural uses of the Site and agricultural land uses and wind farm activities can coexist in the locality;
 - erosion risks are capable of being managed;
 - the Project is capable of being decommissioned and the Site appropriately rehabilitated;
 - the Project is consistent with the principles of ESD and would achieve an acceptable balance between 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.
303. For the reasons set out in paragraph 302 above, the Commission has determined that consent should be granted subject to conditions. These conditions are designed to:
- prevent, minimise, mitigate and/or offset adverse environmental and other impacts;
 - set standards and performance measures for acceptable environmental performance;
 - require regular monitoring and public reporting; and

- provide for the on-going environmental management of the development.

304. The reasons for the Decision are given in the Statement of Reasons for Decision dated 9 September 2024.



Clare Sykes (Chair)
Member of the Commission



Juliet Grant
Member of the Commission



Duncan Marshall AM
Member of the Commission



New South Wales Government
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