

RESPONSE TO PUBLIC MEETING and SUBMISSIONS TO IPC

Restart of the Redbank Power Station and use of Biomass
(Excluding Native Forestry Residues from Logging) As a Fuel - SSD-
56284960

Verdant Earth Technologies Limited



Prepared for Verdant Earth Technologies Limited

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Version	Authors	Date	Reviewer	Approved for issue	Date
Draft	E. Larson	14/08/2025	Dr M. Jackson	Dr M. Jackson	15/08/2025
Final	E. Larson	18/08/2025	Dr M. Jackson	Dr M. Jackson	18/08/2024

Declaration

Project details	
Project name	Restart of Redbank Power Station and Use of Biomass (Excluding Native Forestry Residues from Logging) as a Fuel
Application number	SSD-56284960
Address of the land in respect of which the development application is made	112 Long Point Road West, Warkworth NSW 2330
Applicant details	
Applicant name	Verdant Earth Technologies Limited
Applicant address	GPO BOX 2537, Sydney NSW 2001
Details of persons by whom this RTS Report was prepared	
Name	Erik Larson and Dr Mark Jackson
Address	Suite 102, Level 1, 25-29 Berry St, North Sydney NSW 2060
Professional qualifications	Erik Larson: B.Sc. Natural Resources Planning Dr Mark Jackson, Director and Principal Consultant, B.Sc (Hons), PhD, Grad. Cert. Mgmt., Exec. Masters Public Admin., Certified Environmental Practitioner CEnvP (1542), Impact Assessment Specialist (IA11071), NSW Registered Environmental Assessment Practitioner REAP (R80020).
Declaration by registered environmental assessment practitioner	
Name	Dr Mark Jackson
Registration number	R80020
Organisation registered with	Environment Institute of Australia and New Zealand (EIANZ)
Declaration	The undersigned declares that this EIS Report: • has been prepared in accordance with the <i>Environmental Planning and Assessment Regulation 2021</i>; • contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the report relates; • does not contain information that is false or misleading; • addresses the Planning Secretary's environmental assessment requirements (SEARs) for the project; • identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments; • has been prepared having regard to the Department's State Significant Development Guidelines; • contains a simple and easy to understand summary of the project as a whole, having regard to the economic, environmental and social impacts of the project and the principles of ecologically sustainable development; • contains a consolidated description of the project in a single chapter of the EIS Report; • contains an accurate summary of the findings of any community engagement; and • contains an accurate summary of the detailed technical assessment of the impacts of the project as a whole.
Signature	
Date	18/08/25

Executive Summary

This submission has been prepared on behalf of Verdant Earth Technologies Limited (Verdant Earth) (the Applicant) as part of its application to restart the Redbank Power Station using biomass (excluding native forestry residues from logging) at 112 Long Point Road West, Warkworth (Lot 450 DP 1119428) (the Proposal).

Public submissions during the Independent Planning Commission's review of this State Significant Development (SSD-56284960) concluded on 18 August 2025. Thirty-eight (38) submissions were given at a public meeting hosted by the Independent Planning Commission in Singleton on 11 August 2025, together with over 300 written submissions made through the IPC website.

This Submission is provided to assist the IPC in consideration of key remaining community concerns over the Proposal. The aim is to provide further clarification around the Proposal and address community comments and concerns around several issues including:

- Biodiversity and land clearing;
- Greenhouse gas emissions and climate change;
- Air pollution and public health; and
- Electricity grid firming from biomass.

Each of these issues have been raised previously in public submissions during exhibition of the EIS and Response to Submissions phases of the development assessment. It is noted that these issues have been already comprehensively addressed and in detail through the assessment process.

Biodiversity

The Applicant is not intending to conduct any clearing works. The applicant will only source Invasive Native Species (INS) harvested where this material has been selectively removed from agricultural land strictly in accordance with Property Vegetation Plans (PVPs) as agreed to with the Local Land Services under Section 60Y of the *Local Land Services Act 2013* and in accordance with the *Land Management (Native Vegetation) Code 2018*. These PVPs are undertaken in such a way as to avoid impacts to biodiversity.

The amount of INS burned by landowners onsite is comparable to the existing approved clearing being undertaken by landholders. The Applicant will not conduct any clearing and must ensure the INS material cleared by landholders in accordance with a PVP has no higher order uses in accordance with an RROE issued by the EPA.

The Local Land Services published the *Land Management (Native Vegetation) Code 2018 Amendment Order 2025 Discussion Paper* (June 2025)¹. The amendments proposed aim to improve environmental outcomes in key parts of the Native Vegetation Code including strengthening prescriptions for invasive native species management and mosaic thinning and ensuring vegetation set aside areas are larger than the area to be cleared.

The Applicant welcomes these changes and views the proposed amendments as supporting the continued effort by landholders to manage invasive native species that have reached unnatural densities and dominate an area or are invading an area where that species is not known to previously occur. These activities are intended to promote the regeneration and regrowth of a more natural and diverse range of native vegetation.

None of these changes would impact the Proposal or the proposed fuel strategy to incorporate the use of INS as fuel. They would simply assist in implementing the biodiversity goals of the NSW Plan for Nature whilst protecting and enhancing biodiversity values where INS is a known issue in the landscape and for landowners.

Greenhouse Gas and Climate Change

The Intergovernmental Panel on Climate Change (IPCC) notes that Modern Bioenergy done well can retain biodiversity, manage resource use, prevent deforestation and prevent potentially negative land-use changes. Modern Bioenergy is defined and designated a "renewable" energy by the IPCC.

Modern Bioenergy is highlighted as a critical pathway to achieving Net Zero by 2050 by the world leading authorities on climate change and sustainable energy including IPCC and the International Energy Agency.

¹ Land Management (Native Vegetation) Code 2018 Amendment Order 2025 Discussion Paper. Local Land Services, June 2025. Web: <https://www.nsw.gov.au/sites/default/files/2025-06/discussion-paper-land-management-native-vegetation-code-2018-amendment-order-2025.pdf>.

The Greenhouse Gas Assessment prepared for the EIS has been accepted by NSW EPA as the State's Climate Change regulator.

The Proposal will be a "near net zero" CO₂ project and a small contributor to GHG emissions in NSW representing 0.02% of state-wide emissions in 2030, and 0.07% in 2050.

Air Quality and Public Health

We note that a full Air Quality Impact Assessment (AQIA) was completed for the EIS and that a regulatory worst-case (RWC) scenario was assessed using the maximum allowable emissions under Schedule 2 of the *Protection of the Environment Operations (Clean Air) Regulation 2022*. The AQIA adopted Group 6 emission limits for modelling air quality impacts under the Proposal, which technically falls under less strict Group 5 limits. Group 6 limits provide the most stringent limits in the Clean Air Regulation and were adopted to reflect proper and efficient operation of the Proposal and provide a conservative assessment.

We note also that a Human Health Risk Assessment (HHRA) (EIS Appendix Q) concluded that all risks to human health are considered negligible.

The results of the modelling concluded that the health and amenity of the surrounding community would be protected.

Air quality will be continuously monitored and reported to EPA in accordance with these strict emission limits and cannot be exceeded. The ongoing monitoring in addition to reporting and EPA regulation will ensure that local air quality is protected at all times.

To fully address any remaining community concerns over air quality, the Applicant has considered further mitigation measures in the assessment of air quality concern and will commit to the following additional measures:

The Applicant will provide two 24-hour solar powered dust monitoring stations to be located (subject to relevant approvals) near or at the Jerry Plains school and Singelton School to provide permanent online monitoring of local area emissions.

The Applicant will add these monitors to its existing 24/7 emissions monitoring program and

- a) will maintain these stations for the life of the project or schools; and*
- b) will immediately notify a designated representative of each school in the event of a high emissions reading on those monitors.*

Grid Firing Energy and Competition with Other Renewables

The Applicant proposes to use this technology to generate near net-zero electricity to offset the use of coal-fired electricity generation and help to decarbonise the electricity grid.

The plant consists of two FiCirc Fluidised bed boilers and one Turbine. The plant is designed to be operated between 70 and 100% steam flow. It is a base load plant and has minimum turndown capability to 110 MW with two boilers, if load needs to be reduced further then one boiler can be taken off service and stored in hot condition. The minimum load with one boiler in operation is 55MW.

The NSW Electricity Supply Gap (EIS Appendix J and updated in RTS Appendix O) Marsden Jacob & Associates concluded that NSW's electricity supply has a projected reliability level (from the late 2020's) below the required standard and the robustness of electricity supply in NSW. This issue, along with the risk of ongoing problems and shutdowns from aging coal-fired plants, would be improved if additional firming, dispatchable capacity from the Proposal was available in NSW.

Conclusions

The concerns raised during the IPC public meeting and through written submissions have been comprehensively addressed through the environmental assessment process. The commitments made in the mitigation measures along with requirements of EPA licensing and the consent conditions will ensure that operations are undertaken in such a manner to reduce environmental and community risk and optimise public benefit.

The Proposal has been through rigorous review by planners, specialists, agencies, an independent reviewer and the public. The development proposal is a highly suitable project for the Redbank Power Station and will provide multiple social and economic public benefits whilst safeguarding the environment and public health.

It is noted that Applicant has provided a series of additional conditions of consent to address these community concerns.

It is recommended that the IPC adopt the proposed conditions Verdant Earth have provided in their submission to IPC (see Appendix D). The Applicant has expressed support for the recommended Conditions of Consent, which provide a rigorous, accountable and verifiable framework for the Proposal to operate to minimise impacts on the environment, public health and the climate, whilst maximising public benefits.

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1. Overview

This submission has been prepared on behalf of Verdant Earth Technologies Limited (Verdant Earth) (the Applicant) as part of its application to restart the Redbank Power Station using biomass (excluding native forestry residues from logging) at 112 Long Point Road West, Warkworth (Lot 450 DP 1119428) (the Proposal).

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This Submission has been provided on behalf of the Applicant to assist the IPC in consideration of key remaining community concerns over the Proposal. The aim is to provide further clarification around the Proposal and address community comments and concerns around several issues including:

- Biodiversity and land clearing;
- Greenhouse gas emissions and climate change;
- Air pollution and public health; and
- Electricity grid firming from biomass.

Each of these issues have been raised previously in public submissions during exhibition of the EIS and Response to Submissions phases of the development assessment. It is noted that these issues have been already comprehensively addressed and in detail through the assessment process.

Although there have also been many submissions in support of the Proposal, this submission is meant to acknowledge the remaining community concerns and provide clarity around how the Applicant's commitments, mitigation measures, consent requirements and regulatory responsibilities will ensure the development is of maximum benefit to the public and protects biodiversity, human health and the climate.

The Applicant has committed to ongoing community engagement with Singleton Council, residents, and businesses in the LGA. A Community Consultative Committee that includes the Applicant, community members and key agency stakeholders will meet regularly to review status and ongoing operations of the Proposal.

To address concerns expressed by the community in relation to the use of native forestry residues as fuel, the Applicant developed an alternative biomass fuel strategy which specifically excludes this fuel source. The Applicant will also relinquish the current approval to use coal tailings as a fuel. Environmental monitoring results (including noise and air quality) will be published on the Verdant Earth website.

The Applicant has committed to ensuring that all operations are undertaken in such a manner to reduce environmental and community risk and optimise public benefit. This includes preparing and implementing a robust Quality Assurance and Quality Control (QA/QC) program for operations to ensure all fuel specifications and regulatory requirements are met. This is also a requirement under Condition B9 of the recommended consent conditions.

The Applicant is confident of managing commercial risks via the QA/QC program and due diligence work with biomass suppliers and contractors such that all necessary and required approvals, permits and authorisations are held and adhered to.

We also note that the Department of Planning, Housing and Infrastructure (DPHI) has concluded that the Proposal would result in benefits to NSW, is in the public interest and is approvable subject to conditions.

The proposed development has been designed and will be operated and managed in accordance with best practice to meet all relevant legislative policy and regulatory requirements.

2. Biodiversity and Land Clearing

Submissions during the IPC assessment raised concerns that the Proposal would cause loss of important biodiversity and incentivise additional clearing of Invasive Native Scrub (INS) than would otherwise occur.

There is concern that no assessment of impacts on offsite biodiversity (i.e. INS areas) has or will occur when INS clearing is undertaken and that material will supply biomass fuel.

The Applicant is aware that according to the NSW Biodiversity Outlook Report 2024², biodiversity is facing a number of pressures, including climate change, habitat loss and invasive species. These pressures are causing a decline in biodiversity in New South Wales. This is not disputed.

The proposed use of biomass has been assessed thoroughly. The use of INS will not unduly affect biodiversity and in fact can provide significant benefits not only to farmers, but biodiversity as well.

There has been an extensive and multi-year INS Research Program coordinated by the Central West and Western Catchment Management Authorities (now Local Land Services), in collaboration with:

- NSW Department of Environment, Climate Change and Water (DECCW);
- CSIRO;
- Natural resource consultants (private sector specialists);
- Industry & Investment NSW;
- University of New England (UNE); and
- Landholder community.

It is well-known that INS competes for resources (i.e. light, water, nutrients) and can reduce or exclude the growth of other plant species, particularly native perennial grasses. Widespread INS reduces habitat diversity and soils in INS affected areas can be crusted and hard setting. The reduction in groundcover can increase soil erosion and can be made worse when combined with high total grazing pressure. The encroaching and dense regeneration of these native trees and shrubs not only impacts farm production and communities, it also can negatively affect and harm the environment. However, we know also that INS species are native to NSW and provide shade and shelter for livestock, habitat for a wide variety of native plants and animals, and connections for the movement of wildlife across the landscape.³

INS management is regulated through *the Land Management (Native Vegetation) Code 2018* (Native Vegetation Code)⁴. The Native Vegetation Code is prepared under Part 5A, Division 3 of the *Local Land Services Act 2013*.

The Native Vegetation Code applies to all rural lands throughout NSW and provides directions on what native vegetation can and cannot be cleared, how much clearing is permitted and under what circumstances. The Native Vegetation Code allows the removal of invasive native species that have reached unnatural densities and dominate an area.

Clearing under the Native Vegetation Code is not permitted for some categories of land, including coastal wetlands, old growth forests, littoral rainforests, core koala habitat and critically endangered ecological communities.

Guidelines have been developed to assist landowners remove INS in accordance with relevant legislation, guidelines and to maximise benefits to farms and the environment. The guidelines, *Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions*² show a wholistic approach to INS management and point out that INS removal done well is part of an integrated approach to overall land, pasture and biodiversity management.

The Environmental Impact Assessment for the Proposal has been clear that all INS clearing undertaken to supply biomass fuel for Redbank Power Station will be undertaken in strict accordance with the *Local Land Services Act*

² 2024 State of NSW and Department of Climate Change, Energy, the Environment and Water. Web:

<https://www.environment.nsw.gov.au/sites/default/files/nsw-biodiversity-outlook-report-2024-240126.pdf>

³ Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions. State of NSW, Local Land Services (2014). Web:

https://www.lis.nsw.gov.au/_data/assets/pdf_file/0007/685222/managing-invasive-native-scrub.pdf

⁴ *Land Management (Native Vegetation) Code 2018*. Web: <https://legislation.nsw.gov.au/file/2018-83.pdf>

2013 and the Native Vegetation Code as provided in the Revised Mitigation Measures supplied during the Response to Submissions⁵.

Recently, the Local Land Services published the *Land Management (Native Vegetation) Code 2018 Amendment Order 2025 Discussion Paper* (June 2025)⁶. Landholders, stakeholders and community members were invited to have their say on the proposed amendments to the Native Vegetation Code.

The amendments proposed aim to improve environmental outcomes in key parts of the Native Vegetation Code including strengthening prescriptions for invasive native species management and mosaic thinning and ensuring vegetation set aside areas are larger than the area to be cleared.

In 2024, the NSW Government released the NSW Plan for Nature NSW⁷, their response to the statutory reviews^{8,9} of the *Biodiversity Conservation Act* 2016 and the native vegetation provisions of the *Local Land Services Act* 2013.

The NSW Government committed to amending the Code as part of the NSW Plan for Nature and implementing all 13 recommendations from the Local Land Services Act statutory review, with two variations.

The discussion paper recommends the following key amendments to the Native Vegetation Code:

- Strengthen the invasiveness test for Part 2 Invasive Native Species of the Native Vegetation Code, to ensure that only species that are genuinely acting invasively or regenerating densely in a landscape may be treated under this part;
- Ensuring the intended outcomes of Part 3 Division 3 (Mosaic Thinning) of the Native Vegetation Code are achieved by improving clarity of the provisions and introducing minimum management requirements for retained vegetation;
- Increasing the area of set asides by removing set aside discounts for areas containing Endangered or Critically Endangered Ecological Communities, or an area of strategic landscape- scale biodiversity importance, and enabling Local Land Services to determine the location of the set aside area for Part 5 (Equity) authorisations;
- Reintroduce the application of Schedule 4 of the Code to limit (25%, 100 Ha, or 625 Ha) the maximum equity clearing allowed under Part 5, Div 4 (Equity);
- Introducing a landholder notification requirement for Part 4 Division 1 (Managing woody native regrowth in managed native pastures) to enable better monitoring and reporting of this activity and reduce unallocated (woody vegetation) clearing rates; and
- Reducing future authorisation periods down from 15-years to 3-years for higher risk parts of the Code (Part 3 Division 3, Parts 5 & 6) and 7-years for lower risk parts of the Code (Parts 2-4 except for Part 3 Division 3), with an option for a 2-year extension in mitigating circumstances (e.g., drought, flooding, wildfires, etc.).

It should be noted that there are transitional arrangements to ensure that Code applications made but not yet determined before the commencement of the proposed amendments are assessed under the existing provisions.

The Applicant welcomes these changes and views the proposed amendments as supporting the continued effort by landholders to manage invasive native species that have reached unnatural densities and dominate an area or are invading an area where that species is not known to previously occur. These activities are intended to promote the regeneration and regrowth of a more natural and diverse range of native vegetation.

The importance of landscape mosaics, biodiversity and INS management principles and planning is written clearly into the existing INS Guidelines¹⁰. This has been understood by land managers and the LLS in western NSW for a

⁵ NSW Major Project Portal. Web: <https://www.planningportal.nsw.gov.au/major-projects/projects/restart-redbank-power-station>

⁶ Land Management (Native Vegetation) Code 2018 Amendment Order 2025 Discussion Paper. Local Land Services, June 2025. Web: <https://www.nsw.gov.au/sites/default/files/2025-06/discussion-paper-land-management-native-vegetation-code-2018-amendment-order-2025.pdf>.

⁷ NSW plan for nature NSW Government response to the reviews of the Biodiversity Conservation Act 2016 and the native vegetation provisions of the Local Land Services Act 2013. July 2024.

⁸ Statutory Review of the native vegetation provisions (Part 5A and Schedule 5A and Schedule 5B) of the Local Land Services Act 2013. State of New South Wales through Local Land Services, 2023. Web: <https://www.lls.nsw.gov.au/help-and-advice/land-management-in-nsw/statutory-review-of-the-native-vegetation-provisions-of-the-local-land-services-act>

⁹ Independent Review of the Biodiversity Conservation Act Final Report. Web: <https://www.parliament.nsw.gov.au/tp/files/186428/Independent%20Review%20of%20the%20Biodiversity%20Conservation%20Act%202016-Final.pdf>

¹⁰ Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions. State of NSW, Local Land Services (2014). Web: https://www.lls.nsw.gov.au/_data/assets/pdf_file/0007/685222/managing-invasive-native-scrub.pdf

long time, as provided in previous studies prepared by the CSIRO in 2009¹¹. The Applicant expects the INS Guidelines would be updated in due course once the Native Vegetation Code amendments are implemented.

None of these changes would impact the Proposal or the proposed fuel strategy to incorporate the use of INS as fuel. They would simply assist in implementing the biodiversity goals of the NSW Plan for Nature whilst protecting and enhancing biodiversity values where INS is a known issue in the landscape and for landowners.

Specific public comments made during the IPC assessment process are outlined and addressed in Table 2.1 below.

¹¹ Managing Invasive Native Scrublands for Improved Biodiversity Outcomes in Agricultural Landscapes Final Scientific Report, June 2009. Veronica A.J. Doerr, Erik D. Doerr, Sue McIntyre, Jacqui Stol, Micah Davies, Alex Drew, Garth Warren CSIRO Sustainable Ecosystems.

Table 2.1. Response to Biodiversity and Land Clearing concerns.

No	Concern	Response
1	Use of INS for biomass fuel at Redbank will incentivise land clearing and contribute to significant biodiversity loss in Australia / NSW.	A recent review of the NSW LLS public information register for certificates issued under Section 60Y of the Native Vegetation Code has identified that between March 2018 and July 2025, 201 certificates were issued in the Central West LLS region (equivalent to 154,557ha) and 92 in the Western LLS region (equivalent to 610,447ha). This averages over 100,000ha per year certificates issued. A recent estimate from the Department of Primary Industries and Regional Development estimated (preliminary) the INS affected area in the Cobar LGA alone could be in the order of 1.2 million hectares (see Appendix A). In the first four (4) years of operation, the fuel supply strategy shows an estimated 1.5 million tonnes of INS would be required at Redbank operating at full capacity. Assuming a conservative 25 tonnes per hectare, this equates to approximately 60,000 hectares of INS. This equals 5% of the amount of land estimated to currently hold INS in the Cobar LGA alone. This does not include other LGAs, including 11 LGAs for the Central West and Western LLS areas. The estimate of 25 tonnes per hectare is conservative considering that INS may produce in the range of 85-100 tonnes per hectare based on the Applicant's discussions and negotiations with various landowners around Cobar. Species, wood density and density of INS will affect the estimate. Higher tonnage per hectare will reduce the number of INS hectares required by a factor of 4, leaving approximately 15,000 hectares required in the first 4 years of operation. Note the Higher Order Use Study (Appendix H of the RTS) quoted a NSW Agriculture report in the Cobar and Bourke areas which showed a range of biomass yields of up to 5 to 27 t/ha. Landholders contacted as part of the study estimated 150 tonnes of INS per ha on average was a reasonable estimate of available volumes on their properties. The existing 60Y certificates issued to landholders already greatly exceeds the hectares estimated that could support the INS portion of Redbank's biomass fuel requirements. The highest estimated annual requirement is in the first year of operations at 500,000 tonnes, equating to 20,000 hectares of INS assuming a conservative 25t/ha. This is about 2.6% of the certificate hectares issued between 2018 and 2025. In addition, the amount of annual INS encroachment is not well documented, however it anecdotally may add significant amounts of INS to these numbers annually. Notwithstanding additional INS encroachment each year, the total area potentially treated for INS and that is used by Redbank for biomass fuel during operations is a very small portion of the total area affected by INS. It is important to note that the Applicant is not intending to conduct any clearing works. The applicant will only source INS harvested where this material has been selectively removed from agricultural land strictly in accordance with Property Vegetation Plans (PVPs) as agreed to with the Local Land Services under Section 60Y of the <i>Local Land Services Act 2013</i> and in accordance with the <i>Land Management (Native Vegetation) Code 2018</i>. These PVPs are undertaken in such a way as to avoid impacts to biodiversity. In addition, the Applicant will ensure the INS material has no higher order uses in accordance with a Specific Resource Recovery Order and Exemption (RROE). With implementation of these measures, potential impacts to biodiversity will be managed and either negligible or positive.

No	Concern	Response
2	The rate of clearing INS will be increased a minimum of three times (3X) the current INS clearing rates and risks biodiversity impacts.	Clearing of INS under a PVP on average equated to 39,809ha between 2018 and 2023 under the <i>Native Vegetation Act</i> 2003 on regulated land according to data published on SEED¹². Based on the time period this is an average of 6,635 ha of actual clearing (although the number varies per year). For the first year of operations the Proposal plans for 500,000 tonnes biomass from INS, equating to 20,000 hectares of INS assuming a conservative 25t/ha. By year 5 of operations, we note INS forms an estimated 90,000 tonnes of biomass fuel for full operations at Redbank, which equates to about 3,600 ha at 25t/ha. Over a 30-year life of operations, the average hectares of INS removed to accommodate full capacity operations at Redbank using 25t/ha is equal to 5,120 ha per year, less than the current annual average of actual clearing. A worst-case scenario using 25t/ha could potentially see additional INS cleared at higher than actual rates documented by LLS in the first several years. However this amount remains much less than 60Y certificates allow and less than the average annual 60Y certificates actually issued. Notably, the amount of INS used would decrease to below the average documented clearing over time as purpose-grown fuel is increased even at a conservative 25t/ha average¹³. We note also that higher tonnages of biomass per hectare of INS is likely. In the case of 85t/ha, the first year of operations could potentially see closer to 5,882 hectares of INS removed providing biomass to the Proposal to supply the estimated 500,000 tonnes of biomass. This is essentially equivalent to the current annual removed rate for just the first year. The amount will progressively decrease through years 2-4. In year 5, 90,000 tonnes of INS biomass could equal approximately 1,059 ha of INS or less. As provided above, the amount of INS burned by the landowner onsite is comparable to the existing approved clearing being undertaken by landholders. The Applicant will not conduct any clearing and must ensure the INS material cleared by landholders in accordance with a PVP has no higher order uses in accordance with an RROE issued by the EPA.
3	There has been no assessment of biodiversity impacts for INS clearing where the material would be supplied to Redbank for biomass fuel.	<i>Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions</i>¹⁴ (the Guidelines) require targeted INS removal based on site specific conditions. The Guidelines provide a detailed resource for managing INS, including the importance of landscape mosaics, biodiversity and INS management principles and planning. Under the revised set of Mitigation Measures in the Response to Submissions Report, the applicant has included the following: <i>“When sourcing INS from landholders, Verdant will confirm and document that the landholder has consulted with LLS regarding the planned INS removal and that the INS management measures proposed on the fuel source location will be planned and completed in accordance with the most recent best management practice guidelines for INS management for the Central West and Western Regions (published by LLS).”</i>

¹² Statewide Landcover and Tree Study (SLATS) Dashboard. Web: <https://www.seed.nsw.gov.au/slats-dashboard>

¹³ Restart of Redbank Power Station and Use of Biomass (Excluding Native Forestry Residues from Logging) as a Fuel – SSD-56284960, Environmental Impact Statement Appendix M - Fuel Supply Characterisation Study. Web: <https://www.planningportal.nsw.gov.au/major-projects/projects/restart-redbank-power-station>

¹⁴ Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions. State of NSW, Local Land Services (2014). Web: https://www.lls.nsw.gov.au/_data/assets/pdf_file/0007/685222/managing-invasive-native-scrub.pdf

No	Concern	Response
		This means landowners develop specific integrated management programs that includes treatment and ongoing management of their land to achieve a desired landscape. Importantly, the Applicant will also be required to gain approval from the NSW EPA and obtain a Specific RROE to use INS as a fuel. No material from INS will be accepted that has not been pre-validated to meet the Biomass Fuel Specification and relevant Specific Resource Recovery Order and Exemption (RROE) granted by the NSW EPA. The RROE is a rigorous process in itself, and includes a requirement to ensure no Higher Order Uses exist for the material. A Higher Order Use in the case of INS, for example, would include the use of this material as an onsite mulch for soil improvement.
4	INS holds significant biodiversity values that will be impacted by landholders supplying biomass to Redbank.	It is well-known that INS competes for resources (i.e. light, water, nutrients) and can reduce or exclude the growth of other plant species, particularly native perennial grasses. Widespread INS can reduce habitat diversity and soils in INS sites can be crusted and hard setting. The reduction in groundcover can increase soil erosion and can be made worse when combined with high total grazing pressure. The encroaching and dense regeneration of these native trees and shrubs not only impacts farm production and communities, it also can negatively affect and harm the environment. However, we also know that INS species are native to NSW and provide shade and shelter for livestock, habitat for a wide variety of native plants and animals, and connections for the movement of wildlife across the landscape.¹⁵ Potential impacts to biodiversity are assessed and regulated through the <i>Land Management (Native Vegetation) Code 2018</i> (Native Vegetation Code) under Part 5A, Division 3 of the <i>Local Land Services Act 2013</i>. The Guidelines (<i>Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions</i>) and the <i>Native Vegetation Code</i> provide limits around clearing that include INS vegetation retention requirements (per hectare). This limits and management measures under LLS guidelines assists landowners in achieving a balanced environment through INS management that restores a mosaic of different vegetation types to the landscape. A balance of native pastures, open woodlands, and open and denser INS areas provide greater habitat diversity and biodiversity than one vegetation type alone.
5	INS should not be wasted by burning it – renewables such as solar and wind are a better more efficient option.	The use of INS material for biomass fuel would not be wasted. This material is already collected and burned on the landholders' properties under Part 5A, Division 3 of the <i>Local Land Services Act 2013</i>. Rather than open inefficient burning of this material in the landscape, the material would be combusted in a circulating and deep bubbling fluidised bed technology, recognised for its low emissions profile and suitability for this purpose. The Applicant proposes to use this technology to generate near net-zero electricity to offset the use of coal-fired electricity generation and help to decarbonise the electricity grid.
6	The LLS "self-assessment" code for landowners is not rigorous enough and would create a risk of	Under the <i>Native Vegetation Regulation 2013</i> (NV Regulation), some lower risk clearing activities can be declared as routine agricultural management activities (RAMAs) by the NSW Minister for the Environment. This allows the landholder to use a self-assessable code for clearing rather than obtaining a property vegetation plan (PVP).

¹⁵ Managing invasive native scrub to rehabilitate native pastures and open woodlands - A Best Management Practice Guide for the Central West and Western Regions. State of NSW, Local Land Services (2014).
Web: https://www.lls.nsw.gov.au/_data/assets/pdf_file/0007/685222/managing-invasive-native-scrub.pdf

No	Concern	Response
	landowners impacting biodiversity to supply fuel to Redbank.	Verdant proposes only to work with landholders that remove INS on their properties under an approved Property Vegetation Plan. Therefore, this is not a risk.
7	Use of INS should require limits on the amount of INS cleared that will be used for biomass fuel at Redbank, independent monitoring and offsets where required.	The estimated quantities of INS to be used by year is already documented in Table 4.1 of the Fuel Supply and Characterisation Study (Appendix M of the EIS). The recommended Condition of Consent C1 requires that the Applicant's compliance with the conditions be independently audited. Non-compliance reporting is required under recommended Condition of Consent C2. Annual reporting of compliance is required to be conducted and provided to the DPHI to ensure compliance is maintained. The recommended Conditions of Consent provide a robust framework for controlling access to and use of INS as fuel to ensure that this fuel type is assessed and used in a sustainable manner.

3. Greenhouse Gas and Climate Change

Submissions during the IPC assessment raised concerns that the Proposal would cause excessive greenhouse gas (GHG) and climate change impacts. There were public submissions stating that direct carbon emissions from the Proposal are not accounted for and that for INS in particular the carbon debt from regrowth is not considered in the Lifecycle Assessment prepared for the Proposal. The objection based on GHG grounds state the Proposal is not consistent with the climate mitigation targets of NSW Government in 2030 and 2050.

Public comments raised concerns over use of INS and how this could impact stable, long-term stores of carbon. References are also made to various letters signed by scientists around the world condemning burning of biomass for electricity.

The Applicant throughout the assessment process has acknowledged that the Intergovernmental Panel on Climate Change (IPCC) Working Group III report recognises bioenergy can be harmful when biomass is sourced unsustainably, such as from old growth forests, where land conflicts and when biodiversity loss occurs or when poor technology is used (causing air pollution).

However, the IPCC also notes that Modern Bioenergy done well can retain biodiversity, manage resource use, prevent deforestation and prevent potentially negative land-use changes. Modern Bioenergy is defined and designated a “renewable” energy by the IPCC.

Modern Bioenergy is highlighted as a critical pathway to achieving Net Zero by 2050 by the world leading authorities on climate change and sustainable energy including IPCC and the International Energy Agency.

The Redbank FiCirc boilers are a unique design incorporating a deep bubbling fluidized bed and fine recirculation from large cyclones above the furnace which allows efficient stable combustion of biomass. The technology is highly suited to biomass, and the power station is ideally located to the existing grid. The technology is eminently suitably, and with biomass fuel proposed to be sustainably sourced the Proposal can be considered a strong example of Modern Bioenergy.

The Greenhouse Gas Assessment prepared for the EIS has been accepted by NSW EPA as the State's Climate Change regulator.

The Proposal will be a “near net zero” CO₂ project and a small contributor to GHG emissions in NSW representing 0.02% of state-wide emissions in 2030, and 0.07% in 2050.

Under international IPCC convention, it is acknowledged that the emission factor for CO₂ from the combustion of biogenic carbon (for energy) is zero. This is because trees and plants absorb CO₂ over time. The convention only holds true for Modern Bioenergy. A study prepared by Lifecycles in September 2023 and included in Appendix L of the EIS provides further explanation around these issues. In the transition from coal to renewables, using biomass instead of coal at the Redbank Power Station is the implementation of Modern Bioenergy.

As committed to in the Revised Mitigation Measures (Appendix C of the RTS), the Applicant will review its Greenhouse Gas Mitigation Plan annually. Scope 1 and 3 GHG emissions will be calculated on an annual basis through fuel-based calculations and/or direct emissions monitoring. Mitigation measures, emission reduction strategies and emission offset commitments implemented during the reporting period would be detailed as part of the annual review. The review will address any relevant significant changes to the Proposal and its relationship to the Safeguard Mechanism.

The effectiveness of site management strategies and design will also be reviewed on an ongoing basis throughout the life of the Proposal, in line with annual environmental reporting requirements for the Site. The need to review the Climate Change Adaptation Plan risk assessment will be considered for major revisions to NSW climate modelling.

To assist in the understanding of truck diesel use as well as the potential carbon debt for INS that does not regrow, a short letter has been provided by Lifecycles and is included in Appendix B.

Under worst case transport assumptions (600km travelled one-way for INS and 100% INS used in the first year), the overall climate benefits of the Proposal are not significantly affected.

Table 3.1. Response to Public Submissions to IPC regarding Greenhouse Gas and Climate Concerns.

No.	Concern	Comments
1	Burning biomass releases GHG at the point of emission and should not be treated as “net zero” as it ignores the lifecycle carbon debt in regrowth requirements.	Under international IPCC convention, the emission factor for CO₂ from the combustion of biogenic carbon (for energy) is zero – as trees and plants will absorb the CO₂ emissions over relatively short timespans. In accordance with conventions and reporting guidelines, the emission factor for CO₂ from the combustion of biogenic carbon was taken to be zero in the GHG assessment and the Greenhouse Gas Mitigation Plan and Climate Change Adaptation Plan (Appendix P of the EIS). The actual direct CO₂ emission at the point of biomass combustion would not be zero. However, there is a convention in the internationally accepted guidelines that the amount of CO₂ released during combustion is balanced by the CO₂ taken up by the biomass during its life. These emission and removal mechanisms for CO₂ are therefore accounted for in the land use, land use change and forestry (LULUCF) sector, through an understanding of changes in biomass stock. In this GHG assessment, if the direct CO₂ emissions from burning the biomass had been included in the calculations, then there would effectively been a double counting of emissions in carbon accounting.
2	The project does not align with NSW policy and biomass is not a true “renewable” option.	IPCC acknowledges that Modern Bioenergy done well can retain biodiversity, manage resource use, prevent deforestation and prevent potentially negative land-use changes. This is when bioenergy is defined as “renewable”, also referred to as ‘Modern Bioenergy’. Modern Bioenergy is supported as critical to achieving Net Zero by 2050 by the world leading authorities on climate change, the Intergovernmental Panel on Climate Change (IPCC) and the International Energy Agency (IEA). This is discussed in Section 2.2 of the EIS. In the IPCC Sixth Assessment Report released in April 2022¹⁶, it is acknowledged that bioenergy has an important role in mitigating climate change by reducing CO₂ emissions from traditional fossil fuel electricity generation. The Applicant does not claim the Proposal will result in ‘net zero’ carbon emissions or that no emissions will occur from the Proposal. The Proposal clearly states that it would be a “near net zero” GHG emissions. This is evidenced by the strategy outlined in the Greenhouse Gas Mitigation Plan and Climate Change Adaptation Plan (GHGCC Plan) (EIS Appendix P). The Greenhouse Gas Mitigation Plan and Climate Change Adaptation Plan (Appendix P of the EIS) prepared for the EIS has been accepted by NSW EPA as the State’s Climate Change regulator. The Proposal will be a “near net zero” CO₂ project and a small contributor to GHG emissions in NSW representing 0.02% of state-wide emissions in 2030, and 0.07% in 2050.

¹⁶ Intergovernmental Panel on Climate Change (2022). *Climate Change 2022 – Mitigation of Climate Change. Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. Published by IPCC, 2022. Internet publication: https://www.ipcc.ch/report/ar6/wg3/downloads/report/IPCC_AR6_WGIII_FullReport.pdf

No.	Concern	Comments
		The Proposal delivers green baseload power to the electricity grid and will help drive progress towards the NSW Government's goal of net zero greenhouse gas emissions by 2050. The Proposal will assist in providing needed baseload electricity to the grid in support of the transition to renewables, supporting the goals of Australia's Long Term Emissions Reduction Plan.
3	Carbon accounting for use of INS is not accounted for in the project assessment, or the change in land use from INS growth to pasture land.	The additional removal of INS would decrease the carbon stored in biomass, assuming the land is returned to productive pasture after clearing, and assuming INS does not regrow on the land. If a worst-case scenario of a three times (3X) increase in INS clearing occurred over what has been documented as actual according to data published on SEED¹⁷ (i.e. an average of 6,635 ha of actual clearing per year), this along with an increased distance of travel to 600km would remove the net carbon credit for the fraction of feedstock that comes from additional INS removal. However, even in the first year of operation, where INS makes up 71% of the feedstock, there will still be an overall climate benefit from the project in that year. As the INS fraction decreases as energy crop production scales up, this climate benefit will increase. Note that the lifecycle assessment was developed under the assumption that removal of INS would be happening regardless of the use of INS by the Proposal. It's important to note that the INS material used by the Proposal would be collected and burned onsite regardless of whether the Proposal is able to use it or not.
4	The summary dismissal of the modelled increase in carbon dioxide emissions both fails to account for any of the above and is directly contradictory to New South Wales Greenhouse Gas Emissions Planning.	The <i>Net Zero Plan Stage 1: 2020–2030</i>¹⁸ provides the foundation for the NSW Government's action to reduce GHG emissions. The Proposal will be a "near net zero" CO₂ project and a small contributor to GHG emissions in NSW representing 0.02% of state-wide emissions in 2030, and 0.07% in 2050. The Applicant understands that under international IPCC convention, the emission factor for CO₂ from the combustion of biogenic carbon (for energy) is zero. The reason for this is well-documented in the IPCC literature and conventions. The GHG Assessment has been prepared in accordance with all relevant NSW, Australian and international guidelines. As a form of Modern Bioenergy, the Proposal includes measures that the Applicant has committed to that will ensure future reporting and operations of the facility will follow policy, regulation and guideline updates. The Applicant has committed to annual review of its GHGCC Plan, as provided in the Revised Mitigation Measures (Appendix C of the RTS). In addition, the Applicant is aware of the updated <i>NSW Guide for Large Emitters</i> (2025)¹⁹. It is understood that the guide does not technically apply as the Proposal progressed beyond the environmental impact assessment stage of the planning process at the time the consultation draft guide was published (20 May 2024). However, the GHG assessment in the EIS was undertaken largely in-line with the guidelines. The Applicant in post-approval annual updates to their GHGCC Plan will consider the guidelines and carry out the updates in accordance new policy and guideline changes.

¹⁷ Statewide Landcover and Tree Study (SLATS) Dashboard. Web: <https://www.seed.nsw.gov.au/slats-dashboard>

¹⁸ Net Zero Plan Stage 1: 2020–2030 Department of Planning, Industry and Environment. Web: <https://www.energy.nsw.gov.au/sites/default/files/2022-08/net-zero-plan-2020-2030-200057.pdf>

¹⁹ Environment Protection Authority NSW Guide for Large Emitters Guidance on how to prepare a greenhouse gas assessment as part of NSW environmental planning processes. Web: <https://www.epa.nsw.gov.au/sites/default/files/2025-02/24p4574-nsw-guide-for-large-emitters.pdf>.

4. Air Quality and Public Health

Submissions during the IPC assessment raised concerns that the Proposal would cause or exacerbate unacceptable impacts on air quality to the region. Also raised was the potential for impacts to community health from the Proposal adding to existing poor air quality and affecting vulnerable groups such as children, elderly, those with pre-existing conditions.

These public submissions pointed to existing poor air quality in the Upper Hunter and raised objections that inadequate maintenance of the plant and pollution control systems pose risks for the project not meeting air quality standards. The submissions also claimed no cumulative assessment of air quality impacts was completed for the EIS.

We note that a full Air Quality Impact Assessment (AQIA) was completed for the EIS and that a regulatory worst-case (RWC) scenario was assessed using the maximum allowable emissions under Schedule 2 of the *Protection of the Environment Operations (Clean Air) Regulation 2022*. The AQIA adopted Group 6 emission limits for modelling air quality impacts under the Proposal, which technically falls under less strict Group 5 limits. Group 6 limits provide the most stringent limits in the Clean Air Regulation and were adopted to reflect proper and efficient operation of the Proposal and provide a conservative assessment.

The results of the modelling concluded that the health and amenity of the surrounding community would be protected. Further to the above, the EPA noted in its advice on the Submissions Report that its recommended limits, which will be included in the EPL for operations, are below the standard Group 6 limits modelled in the AQIA as it was demonstrated Redbank could achieve a higher level of performance with lower emissions levels.²⁰

Under the recommended Condition of Consent B13, within three months of commencing operations, an air emission monitoring and a post commissioning monitoring and verification report will be prepared in consultation with the EPA and provided to the Planning Secretary.

We note also that a Human Health Risk Assessment (HHRA) (EIS Appendix Q) concluded that all risks to human health are considered negligible. There are no acute inhalation risk issues of concern, no chronic risk issues of concern, and exposure to particulates derived from the Proposal within the community are considered negligible. Additionally, all chronic risks to human health are considered negligible including all calculated risks for individual exposure pathways and all calculated risks for combined multiple pathway exposures. Emissions from the Proposal would have a negligible impact on water quality in rainwater tanks used for drinking water and on crops and produce grown in the area.

The AQIA (EIS Appendix O) and the HHRA (EIS Appendix Q) assessed in detail the Proposal's potential impacts to air quality and human health.

Air quality will be continuously monitored and reported to EPA in accordance with these strict emission limits and cannot be exceeded. The ongoing monitoring in addition to reporting and EPA regulation will ensure that local air quality is protected at all times.

The Applicant has considered further mitigation measures in the assessment of air quality concern and will commit to the following additional measures (see Appendix D):

The Applicant will provide two 24-hour solar powered dust monitoring stations to be located (subject to relevant approvals) near or at the Jerry Plains school and Singelton School to provide permanent online monitoring of local area emissions.

The Applicant will add these monitors to its existing 24/7 emissions monitoring program and

- c) will maintain these stations for the life of the project or schools; and*
- d) will immediately notify a designated representative of each school in the event of a high emissions reading on those monitors.*

Table 4.1 provides further details to specific concerns over air quality and human health during public submissions during IPC assessment.

²⁰ A Restart of Redbank Power Station (SSD-56284960) - EPA Comments on the Response to Submissions and Recommended Conditions of Approval - Attachment A - EPA Comments on the Response to Submissions and Recommended Conditions of Approval, 8 August 2024. Web: <https://majorprojects.planningportal.nsw.gov.au/prweb/PRRestService/mp/01/getContent?AttachRef=PAE-73279460%2120240808T075249.742%20GMT>

Table 4.1. Response to Public Submissions to IPC regarding Air Quality and Human Health Concerns.

No	Aspect	Comment
1	Air quality is already poor in the Upper Hunter and the project will exacerbate the problem by adding (e.g. PM _{2.5} and NO _x).	Emission rates for a regulatory worst-case (RWC) scenario were calculated using Group 6 emission limits for biomass combustion under Schedule 2 of the <i>Protection of the Environment Operations (Clean Air) Regulation 2022</i> (Clean Air Regulation). The Clean Air Regulation limits are shown in Table 7.2 of the AQIA report providing emission concentration limits for the Proposal. These limits must be met and are required to be confirmed through post-approval verification (recommended Consent Condition B13) with data recorded by installed continuous emissions monitoring system (CEMS) and periodic emissions sampling campaigns. The EPA noted in its advice on the Submissions Report that its recommended limits (subject to the variation of the EPL) are below the standard limits that would be applicable to the power station, as it has been demonstrated the project can achieve a higher level of performance with lower emissions levels. For example, as provided in the DPHI assessment report, solid particles (total) standard concentration limit is identified as 50 mg/m³ under the Clean Air Regulation. However the EPA intends to impose a limit of 25 mg/m³ as Verdant Earth have demonstrated a more conservative limit is achievable. The AQIA modelled results show that any exceedance of limit criteria was due to solely to background levels for the modelled annual average PM₁₀ and PM_{2.5} results for both the expected and RWC scenarios. For modelled 24-hour average PM₁₀ concentrations in the RWC scenario - when background concentrations were added to the Proposal increment, there was one additional day over the impact assessment criteria at two assessed locations due to bushfires occurring in the area. In these cases, the Proposal accounted for only 1% of the impact assessment criteria. The results show the Proposal would not exacerbate any existing poor air quality and this would be confirmed through post commencement validation monitoring and ongoing continuous monitoring.
2	This will create additional poor air quality that will impact human health in the region.	The Human Health Risk Assessment (EIS Appendix Q) concluded that all risks to human health are considered negligible. There are no acute inhalation risk issues of concern, no chronic risk issues of concern, and exposure to particulates derived from the Proposal within the community are considered negligible. Additionally, all chronic risks to human health are considered negligible including all calculated risks for individual exposure pathways and all calculated risks for combined multiple pathway exposures. Emissions from the Proposal would have a negligible impact on water quality in rainwater tanks used for drinking water and on crops and produce grown in the area. The AQIA (EIS Appendix O) and the Human Health Risk Assessment (EIS Appendix Q) assessed in detail the Proposal's potential impacts to air quality and human health.

No	Aspect	Comment
		Also note that the Proposal would be required to monitor and publicly report stack emissions on an ongoing basis in accordance with NSW EPA specifications. In addition, the Applicant has considered further mitigation measures in the assessment of air quality concern and will commit to the following additional measures: • Install an air quality monitoring station in the township of Singleton prior to re-commencement of the power station to generate additional local baseline for air quality; and • Conduct monitoring and reporting for a period of three (3) years to demonstrate the Proposal has negligible impact on air quality.
3	Cumulative impact assessment would suggest that you shouldn't add anymore into that polluted air shed.	As above, the AQIA modelled results show that any exceedance of limit criteria was due to solely to background levels²¹ for the modelled annual average PM₁₀ and PM_{2.5} results for both the expected and RWC scenarios. For modelled 24-hour average PM₁₀ concentrations in the RWC scenario - when background concentrations were added to the Proposal increment, there was one additional day over the impact assessment criteria at two assessed locations. The modelling was undertaken using predicted stack emissions and other potential sources of air emissions including trucks/vehicles and diesel use during start-ups of the plant. These predicted emissions were added to existing background emissions to assess cumulative emissions. In these cases, the Proposal accounted for only 1% of the impact assessment criteria and did not unduly affect local or regional air quality.
4	Biomass is stockpiled in an outdoor area, so it's exposed to the rain, it's likely to be wet when it's burnt, exacerbating the air pollutant discharges.	Notably, the RWC scenario reflects a worst-case scenario independent of biomass fuel moisture content and conservatively assumes that these maximum emission rates are occurring for every hour of the year at maximum capacity. In addition, woodchips shed water and will not retain rainfall moisture. Stockpiles will turn over every three days so this will not be an issue for Redbank. The Redbank FiCirc boilers are a unique design incorporating a deep bubbling fluidized bed and fine recirculation from large cyclones above the furnace which allows efficient stable combustion of biomass with a wide range of moistures (up to 50%), particles sizes and components as given in biomass fuel specification.
5	Maintenance on air quality systems is not guaranteed and there is high risk the system will fail and be unmaintained, thereby creating more air pollution than modelled.	The Department has recommended a condition (Condition B13) that Verdant Earth provide an initial air emissions monitoring and verification report within three months of commencing operations to ensure adherence to the EfW Policy and Clean Air Regulation emissions standards, and ongoing compliance would be regulated through the EPL. The EPL would include the detailed air emissions limits, monitoring requirements and other reporting requirements as regulated by the EPA. Verdant would be required to complete proof of performance testing to demonstrate compliance with air emissions standards during commissioning and operate continuous in-stack emissions monitoring and a testing program to review air pollutant emission concentrations against the limits in the EPL.

²¹ The AQIA (Appendix O of the EIS) notes that PM₁₀ concentrations for the modelled year (2018) were elevated primarily due to intensifying drought conditions).

No	Aspect	Comment
		The data is required to be published online and would certainly be presented and discussed at Community Consultation Committee meetings.
6	There is a high risk of construction or demolition waste containing copper chrome arsenate treated timber – that's highly toxic if you burn it, and that would create a problem across the region.	Domestic Biomass Fuel (DBF) has the potential to contain contaminants such as those within treated timber. We note however that DBF is not currently prescribed as an 'eligible waste fuel' under current EPA guidelines and cannot be used until the applicant can demonstrate that DBF is homogeneous and low in contaminants. The applicant also understands that the EPA must review and list DBF as an eligible waste fuel prior to the applicant applying for a Specific Resource Recovery Order Exemption (RROE) in order to use it. The Applicant will seek to demonstrate this prior to its use through a post-approval Specific RROE application under Clause 93 of the <i>Protection of the Environment Operations (Waste) Regulation 2014</i>. The Applicant agrees to only use EPA approved standard or eligible waste fuels however reserve the right to apply to the EPA in the future to seek approval for the use of DBF if it can be demonstrated that the fuel is acceptable as an Eligible Waste Fuel (EWF) and listed an EWF by EPA. Only biomass fuel that has been NATA laboratory-tested for compliance with specification and EPA requirements will be received by the power station. A Comprehensive Quality Control and Assurance Plan (QA/QC) will support the fuel supply program The power station will be subject to strict EPA compliance requirements for emissions, with continuous reporting to EPA and the community to ensure that no impacts on air quality or human health occur.
7	Biomass will cause more air pollution than coal, and the diesel trucks and diesel at the plant will be a significant contributor to air pollution.	Verdant Earth has noted that diesel will be used for an average of 40 hours per year which accounts for two outages per year (one minor and one major). Diesel may be used during unpredicted outages. Not that Redbank only uses diesel for start-up and does not have the capacity to use it a supplementary fuel. It is noted that the EPL will include the detailed air emissions limits, monitoring requirements and other reporting requirements as regulated by the EPA. Verdant would be required to complete proof of performance testing to demonstrate compliance with air emissions standards during commissioning and operate continuous in-stack emissions monitoring and a testing program to review air pollutant emission concentrations against the limits in the EPL.

5. Grid Firming Using Biomass and Competition with Other Renewables

Concerns raised during the IPC assessment assert that the Proposal would not be able to assist in closing the identified energy security gap when Eraring is scheduled to close in 2027. The objection claimed that the gap is caused by a transmission bottleneck between Muswellbrook and Lake Macquarie that will ultimately be resolved by the Hunter Transmission Project and that this constraint would inhibit the operation of Redbank Power Station.

Whilst the objection acknowledges that dispatchable energy sources are required, it asserts that the Proposal is poorly suited to the needs the grid and is inflexible not close enough to Sydney to overcome transmission delivery constraints.

It is noted that Marsden Jacob Associates undertook a review of the generation supply gap projected in New South Wales (NSW), and the supply a restarted Redbank Power Station would be able to provide. The report by Marsden Jacob Associates²² is included as Appendix J of the EIS and updated in Appendix O of the RTS.

The report concluded that if Redbank Power Station was successfully converted to biomass in a manner that met all planning and environmental approvals, an additional 151 MW of firm (at generator) capacity would be available in NSW that is not presently accounted for in official market projections.

An additional letter has been prepared by Marsden Jacob Associates and included in Appendix C responding to the above claims. The letter concludes that there is no evidence of any transmission bottleneck between Muswellbrook and Lake Macquarie that would impact the operation of Redbank Power Station and that the claim the Proposal is inflexible appears to confuse issues and provides no explanation.

Table 5.1 provides further details to specific concerns over the Proposal's ability to provide dispatchable energy during public submissions during IPC assessment.

²² NSW Electricity Supply Gap, Expert opinion prepared for Verdant Earth Technologies on NSW electricity market" and was dated 24 October 2023.

Table 5.1. Response to Public Submissions to IPC regarding whether the Proposal will compete with renewables and assist in electricity grid stability.

No	Aspect	Comment
1	Redbank would compete with solar, wind and battery renewables as it has very little, limited capacity to ramp up and down when the electricity's not needed. Therefore it will be displacing proper clean energy from the grid because it can't turn itself off when those things are abundant.	The plant consists of two FiCirc Fluidised bed boilers and one Turbine. The plant is designed to be operated between 70 and 100% steam flow. It is a base load plant and has minimum turndown capability to 110 MW with two boilers, if load needs to be reduced further then one boiler can be taken off service and stored in hot condition. The minimum load with one boiler in operation is 55MW. A provided in the NSW Electricity Supply Gap (EIS Appendix J and updated in RTS Appendix O) Marsden Jacob's concluded that NSW's electricity supply has a projected reliability level (from the late 2020's) below the required standard and the robustness of electricity supply in NSW and is subject to unforeseen changes. These issues would be improved if additional firming, dispatchable capacity from Redbank was available in NSW from the mid 2020's.
2	In times of drought water may become unavailable and a water license difficult to obtain, which competes with other existing industries that require water.	Verdant proposes to extract up to 3,300 ML/year of water from the Hunter River to meet the water requirements of Redbank Power Station. Extraction from the Hunter River will occur within Zone 2B of the Hunter Regulated River Water Source. A Water Market Analysis was provided during the Response to Submissions (Appendix G of the RTS) and assessed the water entitlement availability in the Hunter Regulated River Water Source, including a review of historical availability and usage, and provided a high-level summary of water security in the Hunter Regulated River Water Source. The maximum extraction volume of 3,300 ML required to operate Redbank Power Station represents around 2% of the general security and 15% of the high security regulated river entitlement available in the Hunter Regulated River Water Source. Historical availability and usage of water in this water source indicates that much of the water is held in individual accounts and not actually used. Additionally, the water trading market in this water source is well established and liquid, representing few risks to the project in terms of securing sufficient entitlement and/or allocation to supply operational water requirements. The maximum required annual extraction volume for the project is a small percentage of the overall flow historically observed in the Hunter River, representing less than 5% of the annual streamflow recorded.
3	The project isn't located close enough to Sydney to overcome transmission delivery constraints and is inflexible, therefore not a good option for grid firming power.	The location of Redbank Power Station (near Muswellbrook): - Is near the closed Liddell Power Station, and power from the Redback Power Station would flow to Sydney via a very similar route. Liddell 's generation was not subject to constraints and was considered firm; and - Is located on the pathway of power flows from Queensland (via the Queensland NSW Interconnector referred to as QNI to Sydney). Power flow constraints on QNI are north of Liddell. The electricity demand off the Muswellbrook 132 kV which is close to the Redbank Power Station connection is more than the maximum output of the Redbank Power Station. This suggests that most of the power from Redbank Power Station will be used locally.

No	Aspect	Comment
		It is observed that if the Hunter Transmission Project would relieve the said bottleneck, then the said bottleneck would appear to be south of Bayswater (which connected is at the north end of this project - see figure in Appendix C). This is directly on the flow path of Bayswater Power Station to Sydney, and no constrains hinder the operation of this power station. In terms of the Proposal's flexibility, the following is noted: • The NSW government has extended the closure date of Eraring Power Station to provide firm and dispatchable capacity to NSW. The capacity and flexibility of Redback Power Station is similar to other thermal power stations; and • Inflexibility is not related to fixed costs. Examples are hydro power stations and wind generators which have very high fixed costs and low operating costs.

6. Conclusion

This submission has been prepared on behalf of the Applicant as part of its application to restart the Redbank Power Station using biomass (excluding native forestry residues from logging) at 112 Long Point Road West, Warkworth.

Public submissions during the Independent Planning Commission's review of this State Significant Development (SSD-56284960) concluded on 18 August 2025. Thirty eight (38) submissions were given at a public meeting hosted by the Independent Planning Commission in Singleton on 11 August 2025, together with over 300 written submissions made through the IPC website.

The concerns raised during the public meeting and through written submissions have been comprehensively addressed through the environmental assessment process. The commitments made in the mitigation measures along with requirements of EPA licensing and the consent conditions will ensure that operations are undertaken in such a manner to reduce environmental and community risk and optimise public benefit.

Environmental monitoring results (including noise and air quality) will be published on the Verdant Earth website.

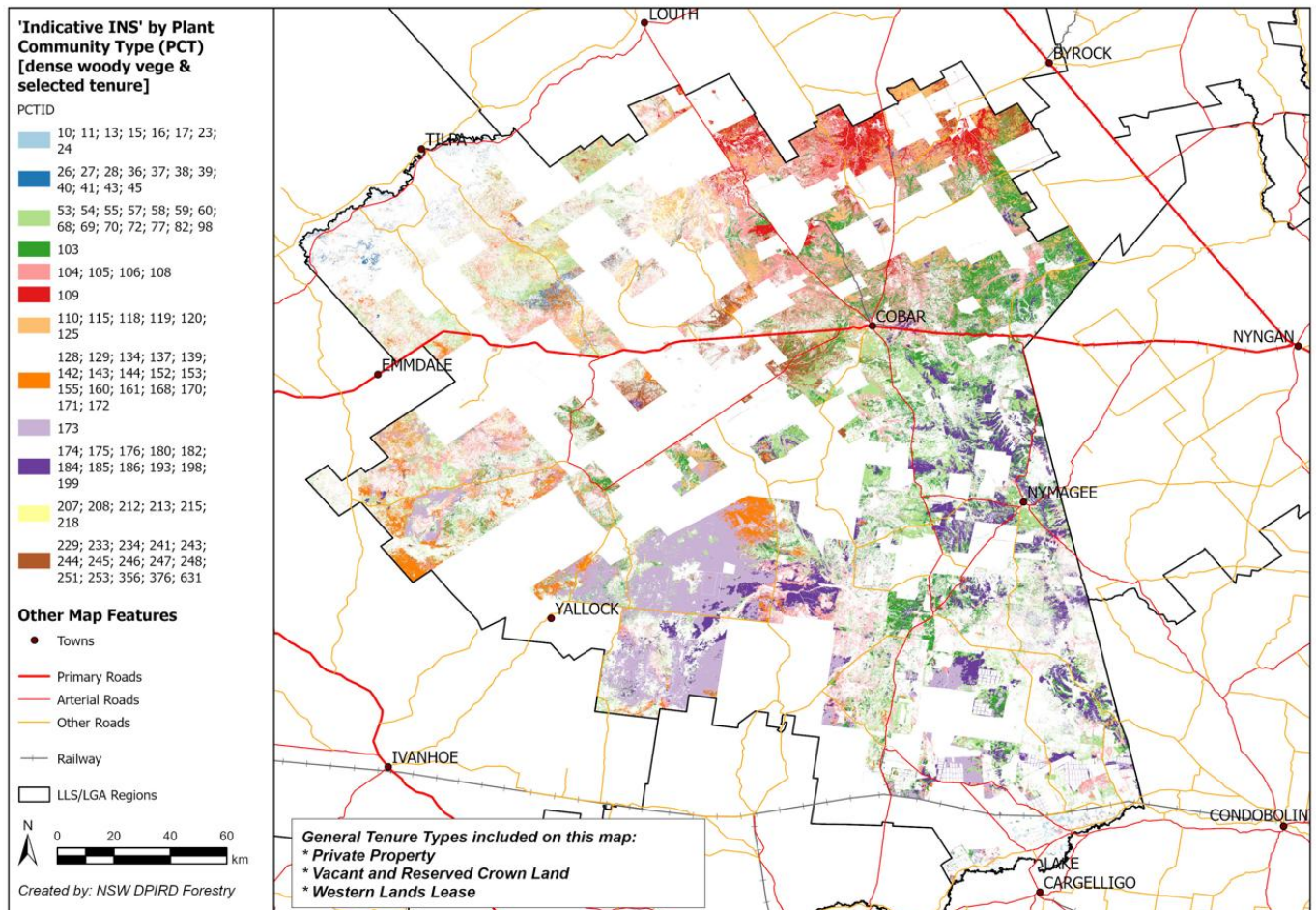
The Proposal has been through rigorous review by planners, specialists, agencies, an independent reviewer and the public. The development proposal is a highly suitable project for the Redbank Power Station and will provide multiple social and economic public benefits whilst safeguarding the environment and public health.

It is noted that Applicant has provided a series of additional conditions of consent to address these community concerns. It is recommended that the IPC adopt the proposed conditions Verdant Earth have provided in their submission to IPC (see Appendix D).

The Applicant has expressed support for the recommended Conditions of Consent, which provide a rigorous accountable and verifiable framework for the Proposal to operate to minimise impacts on the environment, public health and the climate, whilst maximising public benefits.

Appendix A – Estimate of the INS-affected area within the Cobar LGA

The data table below from work undertaken on behalf of Verdant by the Department of Primary Industries (DPI) provides a detailed estimate of the INS-affected area within the Cobar Local Government Area (LGA), excluding reserves, at ~1.52 million hectares, with a biomass availability of 129–150 million tonnes at 85–100 t/ha, contingent on legal removal under the LLS Code PVP and Section 60Y certificates.



Source (via email dated Thursday, 14 August 2025):

Appendix B – GHG and Lifecycle Impacts - Letter Advice



[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
Sydney NSW 2000

18.08.2025

To whom it may concern,

Lifecycles has developed responses to concerns raised during the public consultation held in August 2025, concerning the LCA report included in Verdant Earth's submission for restart of Redbank Power Station. These responses are attached below.

Regards,

[REDACTED]

Tim Grant
Director

[REDACTED]

Topic	Concern	Lifecycles response
Transport distance assumption for collection of INS feedstock	The initial LCA included an assumption of an average transport distance of 300km for the collection of feedstock from invasive species control. This was based on targets shared by Verdant Earth at the time the LCA was completed. As the project has progressed, this assumption is no longer valid as collection is more likely to reach 600km.	Lifecycles has modelled a scenario where INS transport is increased from an average of 300km to 600km. In the first year, with 71% of feedstock coming from INS, this doubling of average transport distance would decrease benefits of the system (compared to the coal reference system) slightly from a reduction in GHG from 88% to 83%. The LCA primarily considers stable operation after the initial 5 years to establish feedstock sources. At this point, when INS represents 13% of the feedstock mix, this slightly lessens the benefits of the biomass power station from a reduction in GHG emissions of 93.4% to a reduction of 92.7%. Even considering a worst-case transport scenario 100% INS, the overall benefits of the project compared to a coal reference scenario are only slightly affected (from 88% reduction to 82% reduction). Overall, these findings show that even under worst case transport assumptions for INS, the overall climate benefits of the project are not significantly affected.
Increase in clearing of INS as a result of the project	There is concern that the amount of clearing of INS feedstock will increase as a result of the Redbank Power Station operation. Lifecycles developed the initial LCA under the assumption that removal of INS would be happening regardless of collection by Redbank.	While Lifecycles cannot comment on the direct effects that the bioenergy project will have on the amount of clearing of invasive native species, we can provide commentary on the effects to the LCA under worst-case scenarios. The additional removal of INS would decrease the carbon stored in biomass, assuming the land is returned to productive pasture after clearing, i.e. assuming INS does not regrow on the land.

		When assessing changing in land use types, it is important to consider the benefits and drivers for INS removal. If the INS removal is increased as a result of the project, and this conversion increases return of land to productive pasture, this has the potential to reduce land use and land clearing pressure elsewhere in Australia and or the rest of world. If we assume the project will result in a 3x increase in INS clearing (and also that the average collection distance increases from 300km to 600km), then the net carbon benefit is indeed removed for the fraction of feedstock that comes from additional INS removal. However, even in the first year of operation, where INS makes up 71% of the feedstock, there will still be an overall climate benefit from the project in this year. As the INS fraction decreases as energy crop production scales up, this climate benefit will increase.
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Appendix C – Marsden Jacobs Letter on Grid Firming Power

17 August 2025

Mike Haywood
General Manager Feedstock Fuels & Sustainable Energy
Verdant Earth Technologies
Email: [REDACTED]

Dear Mike

Response to Statement on Redbank Power Station

This note is provided in response to your request for Marsden Jacob Associates to provide a reply to the statement made by Dr Brad Smith (who you stated is the Policy Director of the Nature Conservation Society) in his statement to the Independent Planning Commission (IPC).

In summary, a review by myself of Marsden Jacob Associates on these matters found the following. That in my opinion:

- There is no evidence of any transmission bottleneck between Muswellbrook and Lake McQuarrie that would impact the operation of Redbank Power Station; and
- The stated issue of “Redbank Power Station being inflexible because it has high fixed operating costs and because it isn’t located close enough to Sydney to overcome transmission delivery constraints” appears to confuse issues and without explanation should be disregarded.

1 Background – MJA Prior Work

As background, in 2023 Marsden Jacob Associates undertook a review of the generation supply gap projected in New South Wales (NSW), and the supply a restarted Redbank Power Station would be able to provide. The report by Marsden Jacob Associates was titled “NSW Electricity Supply Gap, Expert opinion prepared for Verdant Earth Technologies on NSW electricity market” and was dated 24 October 2023. In that report Marsden Jacob Associates stated:

If the Verdant Plant was successfully converted to biomass in a manner that met all planning and environmental approvals, an additional 151 MW of firm (at generator) capacity⁸ would be available in NSW that is not presently accounted for in official market projections.

2 Statement by Dr Brad Smith

On 13 August 2025 Marsden Jacob Associates was informed by Mike Haywood (General Manager Feedstock Fuels & Sustainable Energy, Verdant Earth Technologies) that in connection with the process of Verdant Earth seeking approval to restart the Redbank Power Station, the following statement was made by Dr Brad Smith at a public meeting held by the IPC.

“Verdant Commissioned Marsden Jacobs to assess the benefits of the Redbank Power station to the grid, but this report presented a skewed picture the consultant correctly identified an energy security gap when Eraring is scheduled to close in 2027 yet incorrectly stated that Redbank would help.

Actually, the gap is caused by a transmission bottleneck between Muswellbrook and Lake McQuarrie that will ultimately be resolved by the Hunter Transmission Project which is underway. In the meantime the NSW government is seeking projects firming projects on the South side of this bottleneck through a 500MW firming tender dispatchable energy sources on the north and west side of that bottle neck will not help with that energy security gap, Dispatchable energy sources are required however this project is poorly suited to the needs of our modern energy grid because its relatively inflexible because it has high fixed operating costs and because it isn't located close enough to Sydney to overcome transmission delivery constraints.

Furthermore workforce shortages are a key challenge our state is facing in the clean energy transition, there are not enough people to build all the clean energy projects we need, if approved this project will delay other genuine clean energy projects we need by worsening those labour shortages projects like batteries and pumped hydro are in plentiful supply so there is no need to approve an environmentally harmful project like the Redbank Station.

We would recommend that Verdant consider using this site as a battery as other old coal fired power station sites have been used or as a synchronous condenser and NSW requires several synchronous condensers, NNC would heartily support those projects as consistent with NSW biodiversity and climate goals however this project fails on both of those fronts.”

3 Marsden Jacob Associates Reply

This reply is limited to the ability of a biomass Redback Power Station to assist in supplying capacity to NSW. The Marsden Jacob Associates report did not consider other issues such as environmental or labour allocation.

This reply addresses the following two issues stated by Dr Brad Smith:

- That a transmission bottleneck between Muswellbrook and Lake McQuarrie would exist until the Hunter Transmission Project is developed, and that this constraint would inhibit the operation of Redbank Power Station; and
- That the project is poorly suited to the needs of our modern energy grid because its relatively inflexible because it has high fixed operating costs and because it isn't located close enough to Sydney to overcome transmission delivery constraints.

3.1 Transmission bottleneck between Muswellbrook and Lake McQuarrie

I provide my response to this in two parts

Absence of any constraints between Muswellbrook and Lake McQuarrie

In the original 2023 report Marsden Jacob Associates did review the location and found no evidence of any transmission constraints that would impact the operation of Redbank Power Station. This was consistent with the original economics of Redback Power Station which was located to reduce power loads to the local area, thereby reducing the need for new transmission.

I did a review of the 2024 Transmission Annual Planning Report (TAPR) by Transgrid and found no reference to any transmission constraints between Muswellbrook and Lake McQuarrie.

Supporting Evidence

The following matters support the absence of transmission constraints limiting the operation of the Redback Power Station.

NSW Power flow paths

The location of Redbank Power Station (near Muswellbrook):

- Is near the closed Liddell Power Station, and power from the Redback Power Station would flow to Sydney via a very similar route. Liddell 's generation was not subject to constraints and was considered firm; and
- Is located on the pathway of power flows from Queensland (via the Queensland NSW Interconnector referred to as QNI to Sydney). Power flow constraints on QNI are north of Liddell.

A map of NSW and the locations noted above are shown in Figure 1 below.

Figure 1 Map of NSW Showing Muswellbrook and path to Sydney



Source: 2024 Transmission Annual Planning Report by Transgrid

Local Areas Load

The electricity demand off the Muswellbrook 132 kV which is close to the Redbank Power Station connection is more than the maximum output of the Redbank Power Station. This suggests that most of the power from Redbank Power Station will be used locally.

The table from the 2024 Transmission Annual Planning Report by Transgrid which shows this is presented below.

Figure 2 Table from the 2024 Transgrid TAPR showing Muswellbrook 132 kV Demand

Table A2.1: Ausgrid bulk supply point summer maximum demand⁹⁷

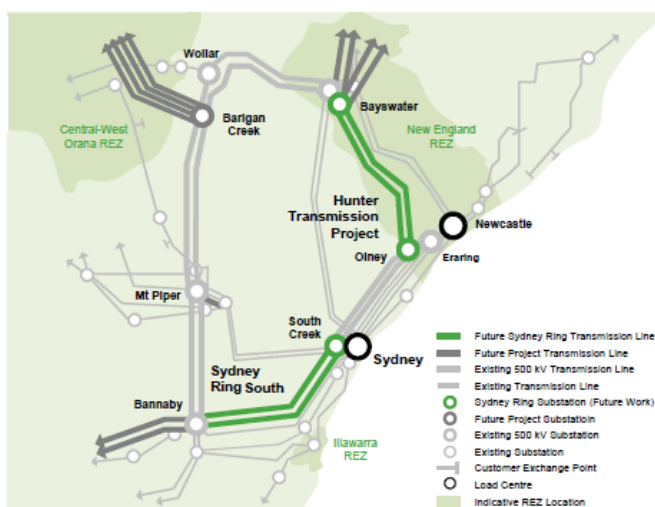
	2024/25			2025/26			2026/27			2027/28			2028/29			2029/30			2030/31			2031/32			2032/33			2033/34		
	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA	MW	MVar	MVA
Beaconsfield West 132 kV	404	59	408	405	54	409	403	64	408	429	43	431	418	29	419	417	58	421	420	22	421	425	27	426	446	25	447	451	30	452
Rookwood Rd 132 kV	220	19	221	219	-4	219	220	21	221	233	12	233	230	22	231	230	38	233	229	0	229	232	2	232	246	23	247	249	25	250
Haymarket 132 kV	493	106	505	504	107	515	499	99	508	487	97	497	501	101	511	518	90	526	529	94	537	537	98	545	534	109	545	538	100	547
Liddell 33 kV	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21	18	9	21
Munmorah 132 kV & 33 kV	133	44	140	128	39	134	128	38	134	133	40	139	131	39	137	133	40	139	135	41	141	135	41	142	135	39	140	135	39	140
Muswellbrook 132 kV	248	143	286	247	143	285	246	142	284	245	143	284	245	143	284	245	143	284	246	143	284	246	143	285	246	143	284	245	142	283
Newcastle 132 kV	639	256	688	584	160	605	581	160	603	587	159	609	598	149	617	608	167	630	610	157	630	613	157	633	607	152	626	604	151	623
Sydney East 132 kV	695	22	695	714	20	715	727	29	728	732	33	732	760	40	761	769	53	770	783	56	785	795	62	797	804	68	807	812	78	816
Sydney North 132 kV	824	380	907	858	409	951	879	427	977	906	447	1,010	941	479	1,056	979	513	1,106	1,024	554	1,164	1,055	584	1,206	1,071	587	1,222	1,086	599	1,240
Sydney South 132 kV	1,070	-69	1,072	1,071	-76	1,074	1,087	-73	1,090	1,081	-29	1,081	1,108	-20	1,108	1,126	-22	1,126	1,155	-55	1,156	1,176	-45	1,177	1,174	-29	1,175	1,186	-32	1,187
Tomago 132 kV	319	89	331	276	124	303	275	125	302	281	147	317	281	140	314	280	122	306	287	141	320	289	142	322	285	141	318	284	140	316
Tuggerah 132 kV	267	90	282	270	97	287	269	97	286	267	101	285	266	98	283	267	98	285	270	100	288	272	101	290	278	99	295	278	99	295
Vales Point 132 kV	120	7	120	117	17	118	117	17	118	117	20	119	104	16	105	107	16	108	107	16	108	108	16	109	114	23	117	114	23	116
Waratah West 132 kV	76	38	85	80	40	89	79	40	89	79	40	89	80	40	89	80	41	90	80	41	90	81	41	90	81	41	91	81	41	91

Impact of the Hunter Transmission Project

The statement that the new transmission line known as the Hunter Transmission Project would relieve the stated transmission bottleneck between Muswellbrook and Lake McQuarrie needs some explanation. It is observed that if the Hunter Transmission Project would relieve the said bottleneck, then the said bottleneck would appear to be south of Bayswater (which connected is at the north end of this project - see the figure below). This is directly on the flow path of Bayswater Power Station to Sydney, and no constraints hinder the operation of this power station.

Figure 1 Map of the proposed Hunter Transmission Project

Figure 2.3: Reinforcement to Sydney/Newcastle/Wollongong load centres



Source: 2024 Transmission Annual Planning Report by Transgrid

3.2 Redback Power Station Flexibility

The Statement “That the project is poorly suited to the needs of our modern energy grid because its relatively inflexible because it has high fixed operating costs and because it isn’t located close enough to Sydney to overcome transmission delivery constraints” is not understood, appear to confuse issues, and is not supported by any evidence.

Here the following are noted:

- The NSW government has extended the closure date of Eraring Power Station to provide firm and dispatchable capacity to NSW. The capacity and flexibility of Redback Power Station is similar to other thermal power stations.
- Inflexibility is not related to fixed costs. Examples are hydro power stations and wind generators which have very high fixed costs and low operating costs.
- The issue of transmission issues has been dealt with in the previous question.

Yours sincerely

Andrew Campbell
Director, Marsden Jacob Associates

Appendix D – Verdant Earth Submission to IPC

18th August 2025

The Commissioners
Independent Planning Commission
By Email

Restart of Redbank Power Station SSD 56284960 – proposed additional conditions of consent in response to community concerns.

Verdant Earth is the applicant for the restart of the Redbank Power Station and change of fuel source from coal to biomass (excluding native forestry residues from logging).

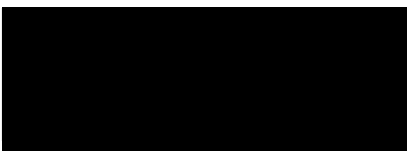
In response to issues raised during the IPC process, Verdant wishes to suggest additional conditions for the Commissioners' consideration, should the project be approved. A detailed report addressing objections has been submitted separately.

A key concern has been the use of waste from invasive native species (INS) management as feedstock. While landholders and regional stakeholders see INS control as positive for restoring degraded land, some environmental groups argued that shortcomings in the current LLS framework could allow for unintended consequences, such as over-clearing or biodiversity impacts.

Verdant's intent in using INS wood is to provide a higher-value alternative to open burning. However, we acknowledge concerns that creating a market for INS waste may encourage further clearing. Landholders see removal as beneficial, but objectors question whether LLS certificates sufficiently safeguard biodiversity.

Notably, we believe many of these concerns will be mitigated by the NSW Government's proposed amendments to the Land Management (Native Vegetation) Code 2018 (as part of the broader NSW Plan for Nature). However, to further address this issue, and other issues raised during the IPC process, such as air emissions and native forestry, Verdant recommends that the Commission considers additional conditions to alleviate concerns. Our suggestions are attached on the following page.

Yours sincerely,



Richard Poole
Verdant Earth Technologies
CEO

Proposed Conditions

B 36 Additional Conditions

36.1 No native forestry residues from logging activities

The Applicant will not utilise any Native Forestry residues from naturally occurring native forest logging activities as fuel for Redbank

36.2 Use of biomass waste from the control of invasive native scrub (INS)

36.2.1 Compliance and voluntary enforcement

The Applicant will:

- a) not obtain any invasive native scrub (INS) biomass waste from any landholder that has not complied with or breached the requirements of the Local Land Service Act and the Land Management (Native Vegetation Code) in relation to the clearing and control of Invasive Native Scrub for a minimum period of 3 years from such breach.
- b) review suppliers of INS biomass waste to ensure that the removal of invasive native scrub/species:
 - i. will improve the local environment as the species/scrub has reached unnatural densities and is dominating an area, or has invaded an area where that scrub did not occur; and
 - ii. will promote the regeneration and regrowth of a more natural and diverse range of native vegetation and biodiversity.
- c) will audit compliance of every supplier with PVP and S60Y LLA requirements including (without limitation) ensuring that:
 - i. the plants are listed as INS species for the LLS region and are regenerating or densely invading plant communities and
 - ii. no vegetation forming part of a critically endangered ecological community has been cleared
 - iii. all clearing and control sizes and percentage clearing rates have been met.

36.2.2 Economic contribution to costs only

The Applicant will:

- a) not create a significant financial incentive for landholders to clear INS over and above the existing reasons to promote the regeneration and regrowth of a more natural and diverse range of native vegetation and biodiversity; and
- b) will limit payments for INS biomass waste per tonne to a maximum of reasonably incurred clearing costs per tonne only.

36.2.3 Alternative fuels to INS

The Applicant will work diligently to develop alternate fuels to replace INS including purpose grown

fuels and the use of domestic biomass (urban waste stream) fuels. Where similar or lower in all-in-cost per tonne, the Applicant will use such alternate fuels in preference to INS.

36.3 Emissions

The Applicant will monitor and check its emissions on a 24/7 live basis and will ensure it maintains a regular maintenance and inspection program to ensure filter bag quality.

In addition, the Applicant will provide two 24-hour solar powered dust monitoring stations to be located (subject to relevant approvals) near or at the Jerry Plains school and Singelton School to provide permanent online monitoring of local area emissions.

The Applicant will add these monitors to its existing 24/7 emissions monitoring program and

- a) will maintain these stations for the life of the project or schools; and
- b) will immediately notify a designated representative of each school in the event of a high emissions reading on those monitors.