OBJECTION TO RESTART OF REDBANK POWER STATION SSD-56284960
15.08.25

Having read Arup's Independent Merit Review of the EIS, dphi's Assessment Report, Verdant's Response to Submissions and listened to much of the public hearing, I am writing to voice my continuing objection to SSD-56284960 Restart of Redbank Power Station. I have identified some of the areas where I believe the assessment is deficient:

INDEPENDENT MERIT REVIEW OF EIS SHOWS MANIFEST DEFICIENCIES

Arup's Independent Merit Review aimed to assess whether the EIS adequately addressed six key criteria:

1. the availability of woody biomass supply,

2. the processing capacity of the facility,

3. compliance with the NSW Energy from Waste Policy Statement and the Eligible Waste Fuels Guideline,

4. the suitability of the proposed technologies in handling the feedstock,

5. the technical fitness of the technology and details of its commissioning, and

6. the effectiveness of emission control techniques and monitoring to ensure alignment with the NSW Energy from Waste Policy Statement.

The risks of each of these factors was assessed and all were assigned an amber rating ie "Represents moderate risks that, based on the information provided, indicate partial fulfilment of requirements. These issues have the potential to impact process operations and significantly affect correct functioning in the short to medium term if not adequately addressed."

Some of the marked deficiencies for each criteria included:

1. "The Verdant project faces **significant challenges** in securing a reliable biomass supply due to **uncertainties** around partnerships and feedstock reliability."

2. “Excessive biomass moisture content poses **significant risks to plant performance, emissions, and quality standards.** The optimal moisture content for biomass combustion is 25%, but feedstock specifications allow for a wide range (10–50%), **challenging combustion efficiency**.”
3. “The EIS references broad market analyses without detailed assessments of specific feedstocks, **raising doubts about compliance with eligibility criteria**.”
4. “This shift presents **significant operational challenges** due to the differences in feedstock characteristics, primarily the moisture content which can vary significantly (10% to 50%). Higher moisture levels reduce boiler efficiency and increase flue gas flow, **straining the system**.”
5. “These issues can **degrade fluidisation quality and cause complete defluidisation**, leading to **significant operational challenges** and potential shutdowns. Verdant has **not assessed the impact** of transitioning from coal to biomass **on the operation of the bed material**, which is essential to ensure that the FBC system can efficiently manage biomass feedstocks.”
6. “Compared to coal, biomass fuel differs in physical characteristics and elemental composition, resulting in **higher levels of PM**, including fine particulate matter (PM2.5) that **poses risks to air quality and human health**.”

I feel that these deficiencies show a lack of understanding on Verdant’s part of the critical issues related to the transition to biomass they are proposing. That in itself makes me think that consent for this proposal should be refused.

I am also concerned that the impact of a mix of raw materials eg chipped INS and purpose grown biomass, possibly including bana grass, sorghum etc hasn’t been adequately considered. Speaking as a chemical engineer with experience in raw materials handling and process analysis, I have never met an industrial process that didn’t perform better on a constant feed. I can’t see any mechanism for blending of different materials to ensure a consistent feed to the fluidized bed. Nor is there any sampling procedure to understand the size distribution, moisture or energy density of the feed directly to the process. I could well imagine the variability in size and density leading to the fluidization issues identified by Arup in point 5 above and possible unstable operations and decreased availability.

The Department's Assessment Report included:

"77. Arup identified the following residual matters in its final report:

• recommended that Verdant's quality control procedure be further aligned with EN 14778 1:2011 – Sampling of Solid Biofuels;

• risks related to fuel degradation once the feedstock is delivered and stored on site prior to combustion in the power station; and

• risks related to managing the quality control process across variable feedstock sources in the initial years of the project."

The Assessment Report further states:

"78. The Department has required measures to address these residual issues as part of its recommended condition to prepare a Quality Control and Quality Assurance Plan for the project."

My question is, who is going to assess the validity and effectiveness of that Quality Control and Quality Assurance Plan? It must not be just a tick in the box that it has been completed.

FEEDSTOCK ISSUES

In my last objection to this proposal, I complained about the "range of broad-brush possibilities and ballpark figures, but no specifics about where the feedstock will actually come from" in the EIS. In the Response to Submissions, we see "Table 4.1. Higher order use assessment – biomass with no higher order uses **potentially** available for energy recovery (tonnes per year) at Redbank."

The "**Estimated** available (t/yr)" is 1 562 500t and we're expected to believe that a new supply chain will be set up to harvest, chip and transport 500 000t of this material to Redbank, within its first year of operation.

I remain skeptical and I think the IPC Commissioners should too.

In the Response to Submissions, I can see no further information which convinces me that there will be 490 000t of purpose grown biomass by year 5 of this proposal.

My personal experience of coppicing eucalypts for the cut-flower industry was fraught with pest problems, from infestations of saw-fly larvae to rabbits and hares, to straying cattle. Wherever you have a monoculture, you are at the mercy of pests and diseases due to the lack of biodiversity. One pest or disease can spread rapidly and wipe out an entire crop. Generally, more spraying is required for pests and diseases, adding to production costs and negative environmental impacts due to overspray, runoff and contamination. Adverse climate impacts eg droughts or floods can also affect the entire crop.

I am not convinced that Verdant really understand the risks involved in purpose grown biomass.

I note that the Assessment Report prohibits the possible use of DBF:

“83. Risks associated with the use of DBF were identified by the EPA and Arup during the assessment of the project. The EPA recommended a condition that only standard fuels and EWF are permitted to be used in the project, which effectively prohibits the use of DBF. The Department agrees this approach and has recommended conditions to this effect.”

I support this ban, both due to the risk of contamination of these products, and possible impacts on air quality, human health and the environment, but also due to the likely source of the majority of this material. I would expect this material coming from waste wood in the Construction & Demolition and Commercial & Industrial sectors to largely come out of Sydney. Various community groups in the Hunter have strenuously opposed waste from Sydney coming into the Hunter Valley for landfilling and would be equally opposed to burning it here. The Hunter will not be Sydney’s dumping ground, nor its incinerator.

Consent to burn DBF will simply ensure that the waste hierarchy is never seriously applied. It also risks contamination of ash, which could easily become a widespread problem if it is applied as a “soil improver”.

Verdant seems reluctant to let go of BDF as a potential feedstock, hence the need to be very clear that it is prohibited in the Conditions of Consent.

GREENHOUSE GAS EMISSIONS

I note the Assessment Report says:

"146. Scope 1 emissions calculations include an emission factor of zero for carbon dioxide (CO2) emissions from the combustion of biomass. In the actual operation of the power station, carbon dioxide emissions from the stack would not be zero. However as outlined in the GHG Assessment, this approach to the calculation of emissions is appropriate based on the assumption that the combustion of biomass in the power station is balanced by the amount of CO2 taken out of the atmosphere by the biomass during its life as part of the natural carbon cycle. For biomass waste products, CO2 would be released into the atmosphere upon decomposing, irrespective of whether it is used to fuel the power station. Net changes in the amount of biomass stock that is part of the carbon cycle is considered in carbon accounting under the land use, land use change and forestry (LULUCF) category."

Every coal mine I have ever objected to wriggled out of any responsibility for the CO2 emissions from burning the coal – that was for the country where the coal was burnt to take into account. It seems unbelievable that this operation which does the burning of biomass to produce electricity has no responsibility for the emissions!

Given that our Supreme Court has just ruled in the DAMSHEG case that the impact of CO2 emissions from coal from Mt Pleasant burnt **OVERSEAS** have to be included in the assessment of the Mt Pleasant extension, I find it incredible that the impact of CO2 emissions from biomass burnt **RIGHT HERE** in the Hunter Valley don't have to be assessed.

The problem I have is that the CO2 is released instantaneously when the INS trees are burnt, but it will take many years for that amount of CO2 to be drawn down by growing trees. With respect to INS, once they're gone, they surely will not be allowed to grow back. Replacement with grasslands will not draw down and store anywhere near as much CO2 as the native trees they have replaced.

The claim is made that the CO2 would be released even if the trees weren't burnt. The difference is, the CO2 would be released slowly, over decades. Our problem is reducing CO2 emissions right now to prevent reaching tipping points that will only accelerate global temperature increases.

Many experts better qualified than me spoke on the GHG issue – I urge the Commissioners to spend the time to understand it fully before making their decision

BIODIVERSITY

Appendix D – Statutory considerations includes:

(e) to protect the environment, including the conservation of threatened and other species of native animals and plants, ecological communities and their habitats,

And the Department's consideration:

The Department considers that the project has been designed to minimise environmental and biodiversity impacts as much as practicable by utilising land already used for energy generating facilities.

Given that the proposal is built of harvesting thousands of tonnes of native species initially, then establishing thousands of hectares to grown biomass, the Department's consideration seems less than adequate. This transition to biomass feed can't take place without significant clearing of native vegetation and the impact should be assessed. Several speakers well qualified in the biodiversity field spoke at the public meeting about the adverse impacts of this clearing.

JOBS OVERSTATED

I have reviewed 4.3.1. Economic Social Analysis in the Response to Submissions and can find no justification for the projected number of construction jobs ie 331 direct FTE jobs. The Department's Assessment Report also says "The project has a capital investment value of over $70 million and would create approximately 330 construction jobs and up to 60 operational jobs."

I have looked back at the Hunter Power Plant (the gas plant in Kurri). This project promised 600 FTE jobs during the construction phase. This was to build, from scratch, 2 open cycle gas turbines, delivering up to 750MW.

By comparison, 331 FTE jobs to do some modifications to an existing power plant to deliver 121MW seems unlikely, and rather poor value.

I have just reread the Executive Summary in the Response to Submissions – it states “The Proposal is predicted to generate 1,009 direct and indirect jobs.” How can this be true?

I suggested in my previous objection that “Perhaps the indirect jobs are related to growing/harvesting, processing and transport of biomass to the site. When none of the impacts of these steps are taken into account in this EIS, it seems to be misleading to include the jobs created in that area. No doubt these will be counted again when DAs are put in to establish the processing facilities.”

The Commissioners need to understand the true number of jobs generated by this proposal. And look a bit harder at other claimed benefits.

Everyone in the Hunter wants to see reliable, well-paid jobs with a future to replace the jobs that will inevitably be lost from the coal industry. They need to be real jobs, not spin to bolster a project that doesn’t deserve to get off the ground.

IN CONCLUSION

I believe that NSW would be overall better off without this development.

- We would have native trees in the West continuing to do what they do best ie drawing down CO2 and storing carbon.
- We would not be providing a perverse incentive to farmers out west to contribute further to the land clearing crisis in NSW.
- We would not be further contributing to the biodiversity crisis in NSW.
- We would not be establishing a questionable industry which others might be tempted to follow.
- We would keep the focus on genuine renewable energy projects, such as wind and solar, with battery and pumped hydro backup.

Yours faithfully,

Janet Murray