NCC Submission on Mt Piper Power Station Energy Recovery Project

Dear Madam/Sir,

The Nature Conservation Council of NSW (**NCC**) is the peak environment organisation for New South Wales, representing over 150 member societies across the state. Together we are committed to protecting and conserving the wildlife, landscapes and natural resources of NSW.

NCC objects to this project proceeding as proposed.

This proposal represents a significant modification of the Mount Piper coal-fired power station, by providing 104 MW (thermal) of steam into boiler 2.

As proposed, the modified power station will emit unacceptable levels of toxic air pollution and the NCC recommends that conditions be imposed to require the modified power station to fit pollution controls in line with global best-practice.

Sulfur dioxide pollution from NSW power stations alone is responsible for 104 premature deaths in the NSW Greater Metropolitan Region each year[1], as well as being linked to preterm births[2].

It is imperative that pollution controls which can protect the health of NSW residents are also upgraded to best-available technology, and that the project is conditioned in line with global best-practice.

Exclusion of hazardous materials

The NSW EPA Waste to Energy Policy Statement (EPA 2015/0011) provides that contaminants such as batteries, light bulbs or other electrical or hazardous wastes must not be contained in the proposed waste stream.

Typical NSW Municipal Solid Waste analysis is provided at page 18 of Appendix F (**the Feedstock Report**) of the Environmental Impact Assessment (**EIS**).

The source of the analysis is not referenced and should be provided.

Hazardous waste and e-waste accounts for 2% of the total waste stream. Total miscellaneous waste accounts for a further 3% of the waste stream. It is unclear what prohibited wastes are included as hazardous waste and e-waste and what percentage of miscellaneous wastes may also include prohibited wastes.

The Feedstock Report states that categories of excluded waste will need to be removed, resulting in complete removal of e-waste and hazardous materials. Following this processing miscellaneous wastes will increase to 7% of the feedstock.

Similarly, Commercial and Industrial Waste contains 18% described as 'other'.

Given the uncertainty as to the content of the miscellaneous waste and its significant composition of the proposed feed stock, the proponent must explain the composition of 'miscellaneous waste' and 'other'.

[1] Dr Ben Ewald, "The value of health damage due to sulphur dioxide emissions from coal-fired electricity generation in NSW and implications for pollution licences", 2018, doi: 10.1111/1753-6405.12785

[2] Muzhe Yang and Shin-Yi Chou, "The Impact of Environmental Regulation on Fetal Health: Evidence from the Shutdown of a Coal-Fired Power Plant Located Upwind of New Jersey", Journal of Environmental Economics and Management, Volume 90, July 2018, Pages 269-293 doi: https://doi.org/10.1016/j.jeem.2017.11.005

The Feedstock Report is vague and uncertain as to how exclusion of contaminants such as batteries, light bulbs or other electrical or hazardous wastes will be achieved.

The Feedstock Report refers to several proposed measures in the vaguest terms. These include 'contractual mechanisms' and 'fuel supply agreements'.

The Feedstock Report acknowledges that minimising handling of the feedstock corresponds to cheaper processing.

There is an obvious mis-alignment between the costs of processing in a way that guarantees excluded wastes from the feedstock and the commercial interests of the suppliers of feedstock and the Mt Piper Incinerator.

It is not acceptable for the proponent to vaguely articulate that some unspecified steps will be taken to ensure compliance with measures to protect public health. This is especially relevant given that the proponent states that BATC 8 (Persistent Organic Pollutants) is not applicable because hazardous waste will be removed.

Before the project is approved, the proponent must enter into the relevant supply agreements and finalise their waste management plans to demonstrate and guarantee that excluded wastes will not form a fraction of the feedstock.

Emissions to Air

Appendix I to the EIS (the Air Quality Assessment) identifies ground level exceedances of SO_2 within the modelled domain. These exceedances are dismissed on the basis that the contributions by the Mt Piper Incinerator are effectively zero.

Mt Piper Power Station is operated by EnergyAustralia NSW Pty Ltd. The Mt Piper Incinerator is proposed by EnergyAustralia Development Pty Ltd. Both Energy Australia entities are members of the same corporate group.

The Air Quality Assessment Report was commissioned by EnergyAustralia NSW.

It is not acceptable or appropriate for Energy Australia to seek to explain away exceedances of SO_2 emissions on one of their projects by simply pointing to another source of emissions on the same site that they are also responsible for.

Neither is it acceptable or appropriate to allow Energy Australia to further add to the air pollution burden of the local community when their own Air Quality Assessment Report demonstrates exceedances caused by another polluting facility which is under their control and on the same premises.

Given Energy Australia's control over both facilities which result in exceedances, a condition of approval for the Mt Piper Power Incinerator must be for Mt Piper Power Station to install pollution abatement measures to remove acid gasses from its emissions.

These pollution controls are mature technology which are required to be retrofitted to coal- fired power stations around the world and would bring SO_2 emissions within the modelled domain within criteria.

Mt Piper Power Station – Protection of Environment (Clean Air) Regulations

Mt Piper Power Station is currently classified as a Group 4 Power Station under the *Protection of Environment (Clean Air) Regulations* (**the Regulations**).

An 'emission unit' is defined in the Regulations as '*an item of plant that forms part of, or is attached to, some larger plant, being an item of plant that emits, treats or processes air impurities or controls the discharge of air impurities into the atmosphere*'.

'Plant' is defined in the Protection of Environment Operations Act as '*any plant, equipment, apparatus, device, machine or mechanism, and includes any vessel, dredge, unit of rolling stock or crane, but does not include a motor vehicle*'.

Regulation 33 provides that an emission unit will be deemed to belong to Group 6 if:

1. An Emission Unit is altered as a result of the variation of a licence; and
2. The effect of the alteration is that there is an increase in the emission of air impurities or a change in the nature of the air impurities emitted from the plant to which the emission unit forms a part of or is attached.

The term 'Alter' is not defined in the regulations. However the Macquarie Dictionary defines alter as to make different in some particular; to modify.

The Mt Piper Incinerator clearly has the effect of altering the Mount Piper Power Station Unit 2 Boiler (**the MPPS Unit 2**). By way of non-exhaustive examples the proponent states:

a) The steam generated by the Mt Piper Incinerator will be injected into the MPPS Unit and will be converted into electricity (page 7 Appendix K of the EIS);

b) The RDF Boiler is adjacent to and connected to the existing Unit 2 coal fired boiler (EIS table 3-1).

c) Section 3 of the EIS (ERP Plant and MPPS Key Interfaces) explains the alterations that will be made to the MPPS Unit 2.

d) At section 7.5 of the EIS:

   i. the RDF is described as delivering stream to the existing MPPS Unit 2;

   ii. Installation of ancillary plant and equipment within the existing MPPS and piping and writing connections to the existing power station.

e) The RDF Boiler would be built onsite and integrated with and produce steam for the power station (page 2 and 10) of Appendix H.3.4 of the EIS.

The alteration of the MPPS Unit 2 to receive steam from the Mt Piper Incinerator will require the amendment of EPL 13007 (the MPPS licence) to enable the alteration to occur. For example, Fee Based Activity categorisation will need to be amended to accommodate generation of electrical power from MSW and CIW (condition A1.1).

Further licence amendments will be needed to excise the RDF from the EPL 13007 premises, or alternatively amendments will need to be made to the other activities permitted on the MPPS premises (condition A3.1).

Doubtless further amendments will be required.

It therefore follows that the requirements of Regulation 33 are satisfied because:

I. The MMPS Unit will be altered to receive steam from the Mt Piper Incinerator, which will require an amendment to EPL 13007.

II. The outcome of the alteration will be that the Mount Piper Waste Incinerator and the MPPS Unit 2 will form part of the same plant (the Mount Piper Power Station) within the definition of plant contained in the *Protection of Environment Operations Act*; and

III. The Air Quality Assessment Report demonstrates that in consequence of the alterations to MPPS Unit 2, that emissions from plant are increased and or there is a change in the nature of the air impurities emitted from the plant within the meaning of Regulation 33(1)(b);

IV. If the Mt Piper Incinerator is approved, pursuant to Regulation 33(1) the MMPS Unit 2 will be taken to be Group 6 emissions unit.

The mere fact that the joint venture seeks to characterise the Mt Piper Incinerator as a stand alone unit does not alter the factual outcome of the proposal.

Accordingly, if the Mt Piper Incinerator is approved, the MPPS Unit 2 will be taken to be a Group 6 emission unit.

Further amendments to EPL 13007 will be required to reflect the tighter emission limits associated with Group 6 emission units.

Greenhouse Gas Emissions

Landfill avoidance

The proponent's calculations for emissions diverted from landfilling are overstated. In calculating emissions diverted from landfill, the proponent assumes that a portion of methane produced by landfilling is typically combusted. A capture rate of 50% has been assumed.

However the proponent does not acknowledge the combustion of captured landfill gas to generate electricity, a practice common around Australia and in NSW.

Landfill Gas Generation Plants in NSW have a generation intensity of between 0.05 and 0.08 t CO_2-e/MWh (see Designated generation facility data 2017/18, available at www.cleanenergyregulator.gov.au). This is significantly lower than the predicted emission intensity for the Mount Piper Incinerator, estimated at 0.1 t CO_2-e/MWh (section 5.9 of Appendix H of the EIS).

The net Greenhouse Gas emissions for the project should be recalculated on the basis that a proportion of methane from landfill will be used for electricity generation at a lower emission intensity than the Mt Piper Incinerator.

We trust that this submission assists the Department of Planning Industry and Environment with assessment of the Mt Piper Incinerator.

We trust that these points have been useful in guiding the Department's recommendations.

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