Lithgow Environment Group Inc.

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Preserving the Balance of Nature

26 February 2020

Department of Planning, Industry and Environment
GPO Box 39 Sydney NSW 2001

RE: MOUNT PIPER ENERGY RECOVERY PROJECT (SSD-8294)

The Lithgow Environment Group Inc. was formed in 2005 to protect, conserve, and enhance our unique natural environment, landscapes, flora, fauna, and waterways.

The Lithgow region has made a significant contribution to the NSW economy for over 150 years. However, our local community and the environment has paid a very high price for providing NSW with coal and coal-fired electricity generation.

Lithgow is trying to promote a cleaner-greener image as it transitions away from coal, to attract Tourism and Tree-changers. The "Yuck Factor" of a Waste Incinerator will be highly detrimental.

NSW Health Sydney West Area Health Service has identified that the health status of people living in the Lithgow LGA is on many measures far worse than other parts of NSW. The communities most affected by this Proposal (Blackmans Flat, Portland, Cullen Bullen, Pipers Flat, Lidsdale, Wallerawang) already have high levels of relative disadvantage, making them more susceptible to additional health impacts from environmental stressors such as air pollution and waste transport by trucks.

Furthermore, people in the Lithgow LGA already experience high levels of morbidity due to respiratory and cardiovascular diseases, the conditions most likely to be aggravated by exposure to Sulfur Dioxide, Nitrogen Oxide, Particulate Matter PM2.5 & 10, PAH's, Dioxins, & diesel particulates from 100 truck movements per day hauling 200,000 tonnes of waste annually along the Great Western and Castlereagh Highways.

The environment has also paid a high price, with water quality records showing that the Coxs River currently has the highest salinity levels of all catchments in the Sydney Drinking Water Catchment.

Mount Piper Ash Emplacement area is known to be leaching into underground mine workings and groundwater, as is Wallerawang Power Stations Kerosene Vale Fly Ash Dam (KVAD). Air Quality has recently been recorded as being among the worst in NSW during recent bushfires and dust storms.

The NSW Government has a poor record of managing air and water emissions from local power station's, coal-ash repositories, and coal mines, both during their operation, and after closure. The local community does not trust Energy Australia to manage emissions from this Proposal any better.

This is not a "clean nor green energy" Proposal. This Proposal will **produce more CO2 than burning coal** per kw/h of electricity generated, **will cost local coal mining jobs**, w**ill create toxic air, water, and soil pollution**. And it will seriously **undermine NSW Recycling and Zero Waste Strategies**.

1. INADEQUATE CONTROLS OF THE WASTE FEEDSTOCK

Garbage in = Garbage Out. Just how hazardous those emissions into the air, water, and soil will be depends entirely on what is being burnt – the Waste Stream or Feedstock.

LEG urgently requests that the DoPIE investigate a trial at Wallerawang Power Station to burn waste from the City of Canterbury about 15 years ago. The City of Canterbury made all the right promises to Delta Electricity that the waste feedstock would meet strict 'fuel supply agreements'. However the waste feedstock that was ultimately delivered was so contaminated with food scraps and other unsuitable materials, that the end result as we understand was a boiler explosion.

LEG regards the **EIS** and **Appendix F Mount Piper RDF Waste Feedstock Report** to be very deficient in stating what exactly will be burnt? The Proposal provides a Typical NSW Municipal Solid Waste analysis on page 18 of **Appendix F**. But the source of that analysis is not referenced?

Hazardous Waste and e-Waste accounts for 2% of the total waste stream, and Total Miscellaneous Waste accounts for a further 3%. It is unclear what prohibited wastes are included as Hazardous Waste and e-Waste, and what percentage of Miscellaneous Wastes includes Prohibited Wastes?

The **Feedstock Report** states that categories of excluded waste (e-Waste & Hazardous Materials) will need to be removed. But 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 on the content of the Miscellaneous Waste - a significant proportion of the feed stock - Energy Australia must explain the composition of 'Miscellaneous Waste' and 'Other'.

The Feedstock Report is vague as to how hazardous contaminants such as batteries, light bulbs or other electrical or hazardous wastes will be adequately removed? And is vague on the proposed measures to do so, only citing unspecified 'contractual mechanisms' and 'fuel supply agreements'.

We remind the DoPIE again how similar 'contractual mechanisms' and 'fuel supply agreements' between Delta Electricity and the City of Canterbury failed at Wallerawang Power Station.

LEG does not believe it is acceptable for the Proponent to vaguely articulate that some unspecified steps will/may be taken to ensure Compliance with measures to protect public health and the environment. This is especially relevant given that the Proponent states that BATC 8 (Persistent Organic Pollutants) is not applicable, because hazardous waste will be removed!!!

The NSW EPA Waste to Energy Policy Statement (EPA 2015/0011) states that contaminants such as batteries, light bulbs or other electrical or hazardous wastes must not be contained in the proposed waste stream. However in the Lithgow area we are only too familiar with the **EPA's inability to properly regulate industry**, and the EPA's **over-reliance on industry self-reporting**.

An April 2018 EPA Review of NSW Power Station's (https://www.epa.nsw.gov.au/-/media/epa/corporate site/resources/air/18p0700-review-of-coal-fired-power-stations.pdf?la=en) found that Mt Piper is the only power station that DOES NOT have Continuous Emission Monitoring Systems (CEMS), and the only one that DOES NOT have a Coal Sulfur Content Limit by % weight.

If the EPA can't bring Mt Piper up to the same standard as other NSW power stations, how can it adequately regulate this Facility? This is the reality we face in Lithgow - Industry is too powerful, EPA is too weak, government doesn't care, local residents and the environment suffer the consequences.

The proponent must enter into relevant supply agreements and finalise their waste management plans to guarantee that excluded wastes will not form a fraction of the feedstock. And Mt Piper **Power must be reclassified from a Group 4 to a Group 6 Power Station under the POEO Act.**

2. NEED TO AMEND MT PIPER 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. Mt Piper's waste Incinerator clearly has the effect of altering Mt Piper Power Station Unit 2 Boiler (MPPS Unit 2). By way of non-exhaustive examples, the **EIS** 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 and connected to the MPPS 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) In section 7.5 of the EIS:
    i. The RDF is described as delivering steam to the existing MPPS Unit 2;
    ii. Installation of ancillary plant and equipment within the existing MPPS and piping and wiring 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 Mt Piper's Environmental Protection Licence EPL 13007 to enable this alteration.

For example, Licence 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).

The requirements of Regulation 33 will then be satisfied because:

I. The MPPS Unit will be altered to receive steam from the Mt Piper Incinerator, which will require an amendment to EPL 13007.
II. Mount Piper Waste Incinerator and 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, emissions from the plant are increased and/or there is a change in the

nature of 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 Mount Piper Waste to Energy Incinerator is approved, the MPPS Unit 2 will be taken to be a Group 6 emission unit., not a Group 4 emission unit as it is currently classified. Further amendments to EPL 13007 will be required to reflect the tighter emission limits associated with Group 6 emission units.

3. EMISSIONS TO AIR

3.1 Inadequate Stack Height

LEG considers the air quality modelling in the **EIS** and **Appendix I Air Quality Assessment** to be totally inadequate, because all are based on modelling of current emissions from Mount Piper Power Station chimney at **250 metres high**, or historic emissions from Wallerawang Power Station which had chimneys of **176 metres high**. The proposed Eastern Creek Waste incinerator had **100m stacks.**

The Waste to Energy plant will only have a chimney **70 metres high**. Emissions from burning waste will be released from a 70m high stack into the air-shed at a much lower elevation than from the 250m high Mount Piper stack or the 176m Wallerawang stacks upon which the Modelling is based.

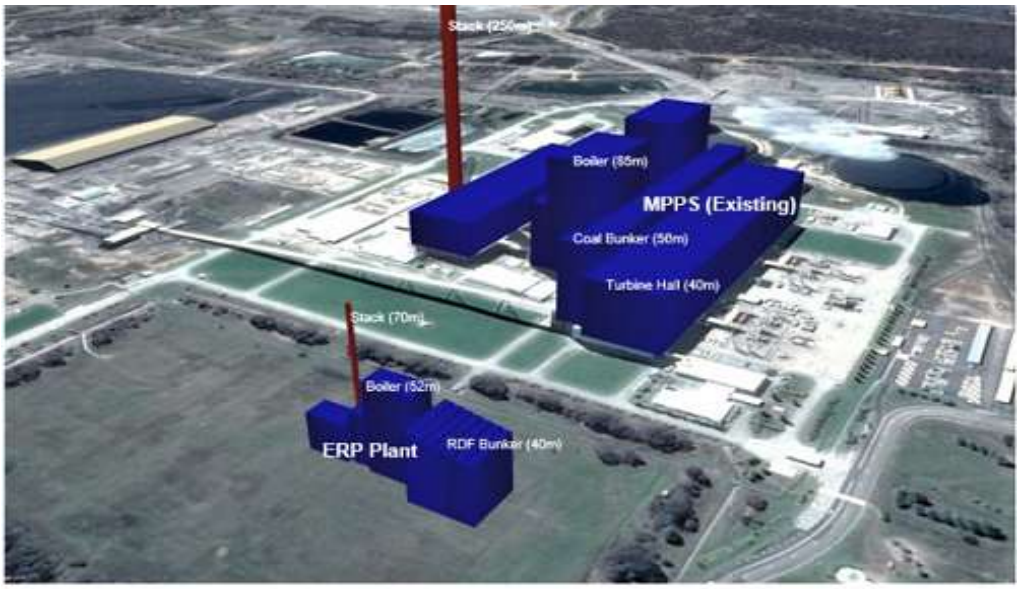

Figure 3-4 Indicative ERP Plant elevation against main MPPS structures (showing height above ground level)

Mount Piper Power Station is located at 880 metres above sea level, and its 250m stack releases emissions at 1130 metres into the atmosphere. Wallerawang Power Station sits at 840m, and its 176m high stack released emissions into the atmosphere at 1016 metres elevation.

The 70 metre ERP stack will release emissions into the airshed at 950m elevation, much lower than Wallerawang Power station at 1016 metres, or Mt Piper Power Station at 1130 metres.

Wallerawang Power Station was notorious for the high levels of air pollution it created for residents of Wallerawang and Lidsdale, particularly during Temperature Inversions. The old Wallerawang A stack built in 1957 was even worse, which is why when Unit 7 & 8 were built in 1976-78 the stacks were made 176 metres high. But that still wasn't high enough, and air pollution problems continued.

Photo: Wallerawang Power Station when operating showing the 176 metres high Unit 7 & 8 stacks, and smaller 80 metres high stack of the old Wallerawang Plant A on the right. Note Wallerawang township in the background, and smoke emissions blowing at almost right angles from stacks at 1016m elevation.

The EPA and everyone else in authority was fully aware of Wallerawang PS problems. That is why when Mt Piper Power was built in 1992 its stack was 250 metres high - the highest stack in NSW.

The proposed ERP stack at 70m will be lower than the old Wallerawang Plant A stack at 80m! This has serious human health ramifications for the residents of Blackmans Flat, Pipers Flat, Portland, Cullen Bullen, Wallerawang, and Lidsdale – particularly during Temperature Inversions.

LEG notes that the proposed Eastern Creek Waste Incinerator stacks were 100 metres high.

The Proponent must include Air Quality Impact Modelling based on a 70 metre high stack.

3.2 TEMPERATURE INVERSIONS NOT ADDRESSED IN MODELLING (also see 3.4 below)

LEG challenges the DoPIE to search for the term Temperature Inversion in the Mount Piper ERP **EIS Final**, **Section 10 Air Quality and Odour**, and **Appendix I Air Quality Impact Assessment**. LEG equally challenges the DoPIE to search the EIS documents for the terms Chimney, Stack, or Flue Heights.

LEG hopes that the DoPIE has better luck than we did, because they are not mentioned anywhere.

And yet Temperature Inversions are a widely recognised atmospheric condition throughout the world. For example, the NSW EPA identified average winter PAH values were 2 - 10 times higher than in summer at coastal urban sites, but 8 - 35 times higher in colder areas. Average winter PAH levels **in Lithgow were two to three times** higher than in other Great Dividing Range towns (see 3.4).

From Wikipedia: *During an **inversion**, warmer **air** is held above cooler **air**; the normal **temperature** profile with altitude is **inverted**. An **inversion** traps **air pollution, such as smog**, **close to the ground**. An **inversion** can also suppress convection by acting as a "cap".*

Temperature Inversions are a common occurrence in townships surrounding Mount Piper Power Station and the proposed ERP Incinerator. particularly in winter. Blackmans Flat, Pipers Flat, Portland, Cullen Bullen, Lidsdale, Wallerawang, Lithgow and the wider area are affected.

Mount Piper Power Station 250 metre high chimney releases emissions into the airshed at 1130m elevation, which most of the time is high enough to penetrate through Temperature Inversions.

However the ERP chimney is only 70 metres high, and will discharge emissions into the airshed at 950 metres elevation, not nearly high enough to penetrate Temperature Inversions.

The ERP Plant will discharge emissions into the airshed at a lower altitude than Wallerawang Power Station's 176 metre chimneys (1016m altitude). And yet Wallerawang Power Station was renowned for causing serious air pollution in Wallerawang and Lidsdale during Temperature Inversions, particularly at night and early mornings in winter, although they can occur any time of the year.

High levels of air pollutants from the ERP Plant will be trapped close to the ground underneath Temperature Inversions for many hours. or even days. This will multiply the health impacts on already socially disadvantaged communities in that area, whom the Sydney West Area Health Service identified are already experiencing high levels of morbidity due to respiratory and cardiovascular diseases - the very conditions most likely to be aggravated by exposure to SO2, NO3, Particulate Matter PM2.5 & 10, PAH's, Dioxins, and diesel particulates from truck movements.

Photo: Temperature Inversion at Mt Piper Power Station. This was in January. The ERP Plant chimney at 70 metres tall is not high enough to penetrate through Temperature Inversions.

In addition, Temperature Inversions also reflect sound waves back to the ground, increasing noise levels for residents from truck movements. This will be addressed under Noise Impacts.

The Proponent must include Temperature Inversions in the Air Quality Impact Modelling

3.3 SULPHUR DIOXIDE (SO_2) EXCEEDANCES

Appendix I to the EIS (Air Quality Assessment) identifies ground level exceedances of Sulphur Dioxide (SO_2) within the modelled area. These exceedances are dismissed by claims they come from burning coal at Mt Piper Power Station, and the ERP Incinerator contributions are effectively zero???

Similar dodgy modelling and creative accounting occurs throughout the **EIS and documents**. Sulpur Dioxide emissions from the ERP Incinerator will be **in addition to** SO_2 emissions from Mt Piper PS.

NSW Health Sydney West Area Health Service (SWAHS) lodged a Submission on the proposed Mount Piper Power Station Extension in 2009 (see **Appendix A** below). The SWAHS addressed maximum monitored 1-hour SO_2 concentrations at Blackman's Flat and Wallerawang from 2001 - 2008. The data indicated that the **existing air quality criterion for SO_2 had been exceeded in three of the eight years. The modelling suggests that SO_2 exceedances occurred up to five times in 2001.**

The SWAHS predicted that the 10-minute and I-hour sulphur dioxide impacts from that Proposal would exceed the existing Mount Piper impacts, particularly at Wallerawang. When LEG contacted the SWAHS to determine what proportion of those emissions were attributable to Mount Piper and Wallerawang Power Stations, they were critical of the Modelling for not including **cumulative SO2 emissions** from all 3 sources - Mount Piper, Wallerawang, and the new Proposal. The SWAHS added that **SO2 exceedances in Blackmans Flat were attributable to Mt Piper PS not Wallerawang PS**

The SWAHS added that there were other issues in relation to likely increments in other pollutants (Mercury, Dioxins, PAHs and regional Ozone) associated with the 2009 Mount Piper Extension.

The 2009 SWAHS report raises very similar issues which are highly relevant to this ERP Proposal –

- **SO2 exceedances have occurred in the Wallerawang and Blackmans Flat areas in the past, and are likely to be exacerbated by this Proposal in the future**
- **SO2 emissions from this Proposal will be Cumulative to existing emissions form Mt Piper**
- **Air Quality Impact modelling doesn't address cumulative SO2 emissions from both sources**
- **The SO2 modelling is based on emissions from the 250m high Mt Piper stack, and 176m high Wallerawang PS stacks. The ERP Incinerator stack will only be 70m high**
- **The SO2 emissions modelling doesn't consider Temperature Inversions, which will trap SO2 close to the ground for hours if not days at a time**
- **The health status of people living in the Lithgow LGA is on many measures worse than many other parts of NSW. Some of the most socially disadvantaged villages within the LGA will be those most impacted by emissions from the proposed ERP Plant**
- **These communities already have high levels of relative disadvantage, making them more susceptible to additional health impacts from environmental stressors such as air pollution**
- **Residents of the Lithgow LGA already experience high levels of morbidity due to respiratory and cardiovascular diseases, the very conditions most likely to be aggravated by exposure to sulphur dioxide emissions from this ERP Proposal**

Mt Piper Power Station is operated by EnergyAustralia NSW P/L. The Mt Piper ERP Incinerator is proposed by EnergyAustralia Development P/L. Both Energy Australia entities are members of the same corporation. The Air Quality Report **Appendix I** was commissioned by EnergyAustralia NSW.

It is not acceptable nor appropriate for Energy Australia to seek to explain away SO2 emission exceedances 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 mor 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 on the same premises.

Pollution control technology to retrofit to coal fired power stations to reduce SO2 are readily available around the world and can reduce SO2 emissions within the modelled criteria.

A 2014 ANSTO Report http://www.ansto.gov.au/AboutANSTO/MediaCentre/News/ACS049674 **d**emonstrated that up to half of the total SO2 air pollution in the greater Sydney region was attributed to emissions from NSW's eight coal-fired power stations, including Mount Piper PS.

Given that Energy Australia has control over both facilities which will result in SO2 exceedances, a condition of approval for the Mt Piper ERP Incinerator must include for Mt Piper PS to install pollution abatement measures to remove acid gasses such as SO2 from its stack.

3.4 POLYCYCLIC AROMATIC HYDROCARBONS (PAHS)

LEG finds it very disturbing that Poly Aromatic Hydrocarbon (PAH) emissions from this Proposal appear to have been watered down in the **EIS**. A NSW EPA Ambient Air Quality Research Project from 1996 – 2001 found that **PAH emissions in the Lithgow region were among the highest in NSW**.

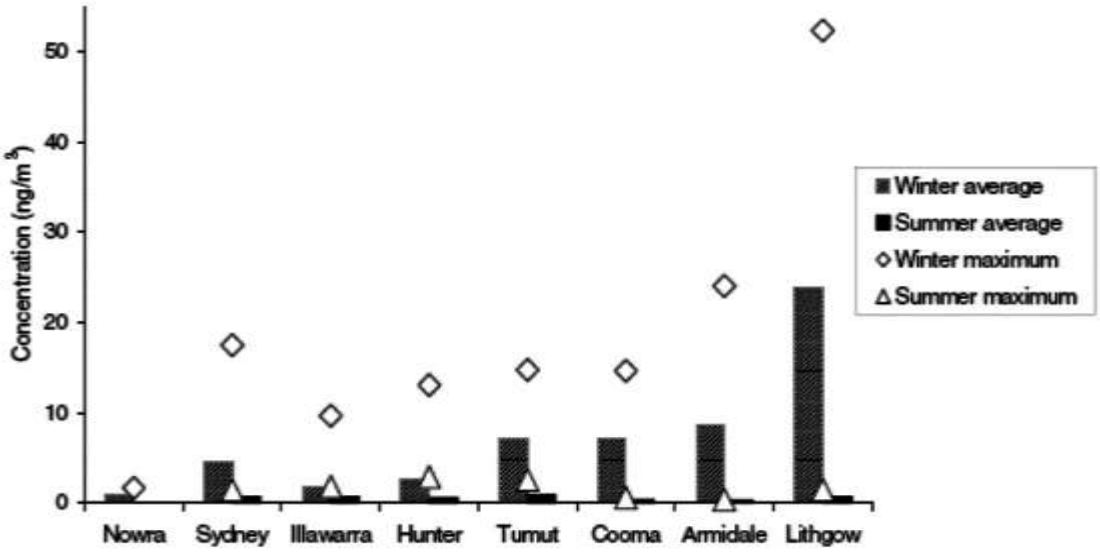

Figure 5: Seasonal variations in PAHs (24-hour averages: ng/m^3)—Sydney, Newcastle and Wollongong sites (average of each group) and all other sites (except Orange)

Samples for PAHs were collected at 22 sites, covering Sydney–Newcastle–Wollongong, as well as sites in the regional centres of Armidale, Cooma, Lithgow, Nowra, Orange and Tumut at various times between August 1997 and February 2001.

The EPA report found that winter conditions tended to reduce mixing in the atmosphere because of stronger and more frequent **Temperature Inversions** (see section 3.2 above). As a result, pollutants became **trapped in a shallow layer at ground level and concentrated**. This was often compounded by still conditions, further limiting dispersion of the PAH pollutants.

The average winter PAH values were between 2 and 10 times higher than the summer samples at coastal urban sites, but between 8 and 35 times higher in the colder Great Dividing Range locations.

Average winter PAH concentrations **in Lithgow were two to three times** higher than those in other Great Dividing Range towns.

Table 7: Total PAHs (24-hour averages: ng/m^3) winter and summer—Sydney, Newcastle and Wollongong sites (average of each group) and all other sites (except Orange)

	Nowra	Sydney (average of all sites)	Wollongong (average of all sites)	Newcastle (average of all sites)	Tumut	Cooma	Armidale	Lithgow
WINTER								
Average	0.92	4.47	1.71	2.68	7.16	7.68	8.62	23.8
Max.	1.67	17.5	9.62	13.0	14.7	17.7	24.0	52.3
Samples	6	52 (6 sites)	59 (7 sites)	31 (3 sites)	14	13	5	14
SUMMER								
Average	–	0.62	0.62	0.56	0.82	0.33	0.28	0.69
Max.	–	1.39	1.79	2.82	2.55	0.59	0.32	1.42
Samples	Nil	14 (4 sites)	8 (2 sites)	11 (3 sites)	4	4	2	4

The EPA identified emissions from Trucks, Vehicles, and Woodheaters as the most likely source of these PAHs. Unfortunately the study did not extend to Wallerawang or Mount Piper, where PAH emissions from power stations would inevitably have been identified as a major source of PAHs.

Appendix I Air Quality Impact Assessment is quite ambiguous about PAH emissions from the ERP **–**

- It cites a PAH Criterion of 0.0004 µg/m (presumably a target limit?).
- Project an Expected Case of 0.00090 g/s (but do not say how g/s equates to µg/m?)
- Assume that all PAHs exist as benzo(a)pyrene?
- State that Existing Mount Piper National Pollutant Inventory (NPI) self-reporting by EnergyAustralia for PAHs is 0.0012 g/s (which exceeds all the above)T
- Then in **Appendix I, page 61, Table 10-6: Discrete Receptor Predicted Ground Level 99.9th percentile 1 hour concentrations** – the line is blank for PAH,s for Regulatory Case for ERP and ERP + MPPS, with an explainer that (a) Emissions for ERP not included for regulatory case. (b) Emissions for MPPS included however not presented for regulatory case scenario.
- But in Table 10-16: ERP + MPPS emissions for PAH = 0.0013 (doesn't say if g/s or µg/m?).

So on the one hand the EPA has identified that the Lithgow area has among the highest PAH levels in NSW. Yet the EIS appears to say that PAH Emissions from the ERP Plant are not included in the regulatory case scenario???

The issue of PAH emissions extends well beyond direct emissions from the ERP smoke stack.

Diesel emissions from trucks emit fine particulate matter (PM2.5) containing Polycyclic Aromatic Hydrocarbons (PAHs), a known carcinogen. 100 Trucks/Day transporting 200,000+ tonnes of waste from Sydney to the ERP will spread dangerous PAHs from Sydney to Mt Piper along the Great Western and Castlereagh Highways, 24/7 winter and summer. THE DoPIE must require Energy Australia to clarify PAH limits.

3.5 CUMULLATVE AIR POLLUTION EMISSIONS

The Mount Piper ERP **EIS Final**, **Section 10 Air Quality and Odour**, and **Appendix I Air Quality Impact Assessment** inexplicably claim that the ERP Plant is a stand-alone unit, and therefore the current emissions from burning 4-5 million tonnes of coal/annum at Mount Piper Power Station don't apply?

Mt Piper Power Station is operated by EnergyAustralia NSW P/L. The Mt Piper ERP Incinerator is proposed by EnergyAustralia Development P/L. EnergyAustralia NSW commissioned the Air Quality Impact Assessment. Both Energy Australia entities are members of the same corporate group.

It is not acceptable or appropriate for Energy Australia to seek to explain away exceedances of 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 Impact Assessment Report demonstrates exceedances caused by another polluting facility which is under their control on the same premises.

Furthermore there is a long history of Cumulative Air Quality Impacts for local residents including –

- Fly-ash Dust blowing of Mount Piper Ash Emplacement Area
- Coal Dust blowing of Mount Piper coal stockpile
- Coal Dust and noise generated by the Springvale Colliery – Mount Piper Coal Conveyor
- Exhaust emissions from early morning/late evening car movements from 300 construction workers currently engaged on building the Mount Piper/Springvale Water Treatment Plant
- Coal Dust, truck and vehicle emissions from Springvale Coal Services coal stockpile, coal washery, and coal conveyor
- Diesel particulates, dangerous carcinogenic PAHs, and dust from Coal Truck movements currently transporting coal from Clarence Colliery to Mount Piper Power Station

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Mt Piper facing an –

Ash disposal crisis

Story: LEN ASHWORTH

Delta Electricity appears to be facing a major new challenge in dealing with the most obvious of the by products from its generation process, the huge volumes of fly ash.

The ash is from the boilers at the power stations and is a residual headache with all coal fired operations.

And in Lithgow Council there has been increasing agitation about the conditions of the ever growing ash dump at the Mt Piper power station.

The dump, now visible for a long distance along the Castlereagh Highway, is increasingly being described as an environmental disaster.

Continued Page 2

Photo: Fly-ash dust blowing off both Mount Piper Ash Emplacement Area and Wallerawang Power Station's Kerosene Vale Ash Repository (KVAR) have been a major air pollution issue for local residents for many years.

Energy Australia and their predecessor Delta Electricity routinely deny there are any coal-ash dust issues. The former Manager of Delta Electricity Stephen Saladine when questioned by local residents about fly-ash dust problems at Blackmans Flat from Mt Piper Ash dump claimed there was "no evidence", that "I'll trust my $250k/year Consultant thanks", and basically called residents liars.

Lidsdale residents were similarly treated by Delta Electricity regarding dust from Kerosene Vale Ash Dam. It wasn't until employees of the contractor Thiess Services complained about poor visibility due to dust that the EPA took action, and Delta was fined $80,000 in the Land & Environment Court.

$80,000 payout for Delta Electricity over licence breach

Carbon + Environment Daily http://www.cedaily.com.au

Tuesday, 17 February 2009 1:42pm

The NSW environment court has ordered Delta Electricity to pay $80,000 after hearing that high winds and Thiess Services' poor management of a fly-ash stockpile were factors triggering dust complaint.

LEG is very concerned that the proposed Energy Recovery project will be equally poorly managed, that local residents will get the same run-around from Energy Australia claiming "no evidence", "we'll trust our $250k per year Consultants thanks", and labelling them as liars.

Local residents should not have to resort to the legal system and Courts to force industry or the NSW EPA to manage operations in a socially and environmentally responsible manner.

3.5.1 DIOXINS

The Proponent states that BATC 8 (Persistent Organic Pollutants such as Dioxins) are not applicable because hazardous waste will be removed by some unspecified vaguely articulated 'contractual mechanisms' and 'fuel supply agreements' to ensure compliance to protect public health.

Dioxins and furans are some of the most toxic chemicals known to science. Dioxin's are formed as an unintentional by-product of many industrial processes involving chlorine, such as waste incineration, chemical and pesticide manufacturing, and pulp and paper bleaching.

There is "no known safe dose" or "threshold" below which Dioxin will not cause cancer.

LEG cannot comprehend how the Proponent can claim that all materials likely to cause BATC 8 (Persistent Organic Pollutants such as Dioxin) emissions will be removed from the waste feedstock, when POP emissions will generated by burning the main ingredients of that feedstock - paper, plastic

The major source of Dioxin is our diet. Dioxin is fat-soluble, bioaccumulates, climbs up the food chain. A typical Australian ingests 93% of their Dioxin from **meat and dairy products** (23%); the other sources of exposure being **beef, fish, pork, poultry and eggs**). In fish Dioxins bioaccumulate up the food chain to levels 100,000 times that of the surrounding environment. **These are the very same foods grown in the Mount Piper area, but not identified in the EIS, Section 12.2.1 Land Use.**

Men have no ways to get rid of Dioxin other than allowing it to break down according to its chemical half-lives. Women, on the other hand, have two ways which it can exit their bodies:

- Dioxins can cross the placenta into a growing infant;
- Dioxins can be expelled in fatty breast milk into a newborn infant.

From https://www.epa.nsw.gov.au/-/media/epa/corporate-site/resources/air/18p0700-review-of-coal-fired-power-stations.pdf?la=en

Australia is a signatory to the Stockholm Convention, a legally binding international instrument that aims to eliminate or restrict the production and use of persistent organic pollutants (POPs).

Waste to Energy Incineration goes directly against the directive of the Stockholm Convention by releasing POPs into the environment.

The EIS states that once initial trials have been completed, monitoring of Dioxin emissions will only occur twice a year. Whether any POEO Licence Limit for Dioxins will be mandatory is unclear.

This is not good enough for such a hazardous carcinogen. The DoPIE must set mandatory Licence Limits for Dioxins, and mandate real-time continuous monitoring of Dioxins from the ERP stack.

3.6 WASTE TRANSPORT BY RAIL NOT TRUCK

The Proposal intends to transport waste from Sydney to Mount Piper using a fleet of between 26 and 33 large 19 metre x 50 tonne B-double trucks **(EIS p. 187)**. However, as B-doubles are currently banned from using Mt Victoria Pass, a likely scenario is around fifty 22 tonne-trucks.

The maximum waste volume of 250,000 tonnes is also the most likely scenario, rather than the claimed 200,000 tonnes.

Up to 96 truck movements a day, with peaks in the early morning (dawn) and at the end of the school day, ensures maximum disruption to Lithgow and Blue Mountains local traffic. Nobody likes extra rubbish trucks moving through their neighbourhood, certainly not Blue Mountains residents.

Mount Piper has an approved Rail Unloader at Pipers Flat. A rail branch line exists at Wallerawang Power Station, and a Rail unloader could be built. Why is it that organic waste from Sydney can be transported by rail to Woodlawn near Canberra, yet the Proponent seeks road transport of waste through the Blue Mountains to the top of the Great Dividing Range?

The failure to use rail is a missed opportunity that carries a significant greenhouse pollution cost

Both the Great Western Highway and the Bells Line of Road are poor road freight routes. Both roads will remain difficult for trucks to negotiate given the grades and other impediments, such as school zones, varying speed limits, and regular closures due to accidents, storms, and bushfires. The B-double truck ban on the Great Western Highway across the Blue Mountains must remain in place to prevent excessive impacts on Blue Mountain communities.

Charles Sturt University Road Safety researcher Sarah Redshaw stated in the Blue Mountains Gazette that "Trucks are a constant safety threat and effect lifestyles, making cycling and other forms of transport more difficult, intimidating locals and creating noise and pollution," she said.

Air pollution from truck transport contains particulates, Nitrogen Dioxide, ground level Ozone and Carbon Monoxide. Diesel emissions are particularly toxic as they emit fine particulate matter (PM2.5) containing polycyclic aromatic hydrocarbons (PAHs), a known carcinogen.

Truck pollution and noise from trucks will become concentrated during Temperature Inversions which are common throughout the Blue Mountains and Lithgow areas particularly in winter, late at night and early mornings when sleep disruption is most likely to occur.

The DoPIE must require the proponents to consider rail haulage of all its rubbish from Sydney.

3.7 LAND USE REPORT IS DEFICIENT

The **EIS, section 12.2.1 Land Use** vaguely states that "There is the potential for residential areas surrounding the Project Site to include some home grown fruit and vegetables and keeping chickens for eggs. In addition, keeping of livestock for meat or milk is possible."

Potential??? LEG points out the following –

- The Award winning Jannei Goat Dairy is located 3.7km ESE of the Proposal. It has been operating commercially for 25 years, selling goat cheese, yoghurt, and other dairy products;
- Premier Farms is located 3km SW of the Proposal. It comprises 6 layer-hen sheds of 15,000 hens each, a total 90,000 chickens producing millions of eggs sold into the market each year;
- The entire area within 5km radius of the Proposal is dominated by beef cattle grazing;
- A Deer Farm exists 4km to the SE;
- A vineyard producing wines is located 5k to the SE;
- An Lidsdale avicultural supplier sells day old chickens, ducks, medications and supplements;
- Several Produce Suppliers in Wallerawang and Portland sell stock feed, medications, supplements and other supplies for poultry, aviculture, beekeepers, cattle, horses, & more;
- There are Hazelnut farms, blueberry farms, and more within a 5km radius;
- Numerous local residents their own fruit and vegetables, maintain poultry for eggs, etc
- Fishing is popular at Pipers Flat Dam (2.5km WSW), Portland Cement Works (4.5km W), Thompsons Creek Dam (7km S), Lake Wallace (7km SE), and Lake Lyell downstream.

The communities most affected by this Proposal (Blackmans Flat, Portland, Cullen Bullen, Pipers Flat, Lidsdale, Wallerawang) already suffer high levels of relative social disadvantage. To save money and survive many must grow their own fruit and vegetables to supplement their limited budgets.

Furthermore, the communities most affected by this Proposal already suffer higher levels than the NSW average of morbidity due to respiratory and cardiovascular diseases, making them more susceptible to additional health impacts from environmental stressors such as air pollution from a Waste Incinerator and pollution from heavy truck movements.

So why has the Proponent omitted this Important Land Use information?

Dioxins will be produced by this proposal. There is no safe level of Dioxins. The major source of Dioxins for people is through their diet. Dioxins are fat-soluble, and bioaccumulate. A typical Australian ingests 93% of their Dioxin from **meat and dairy products** (23%); **beef, fish, pork, poultry** and **eggs**). In **Fish** Dioxins can bioaccumulate to levels 100,000 times higher than normal.

Energy Australia must address the impacts of Dioxins on Dairy, Poultry, fish, & homegrown food.

3.8 NOISE FROM TRUCK MOVEMENTS FOR RESIDENTS ALONG THE WASTE HAULAGE ROUTE

Noise pollution from heavy truck movements hauling waste from Sydney to Mount Piper will have obvious adverse impacts for residents all along the route.

LEG reminds the DoPIE that Temperature Inversions greatly increase noise impacts at night and early mornings when sleep disruption is most likely to occur. Sound waves are reflected from low cloud back to the ground, echoing noise through the valleys including Lithgow and Blackmans Flat.

LEG urges the DoPIE to require the Proponent to transport by Rail, or otherwise place night-time curfews on heavy truck movements.

3.9 INDUSTRY SELF-REPORTING AND EPA REGULATION DOES NOT WORK

The above highlights the difficulty local residents have in dealing with Energy Australia and industry in general. Lithgow Council has a long history of protecting the coal mining and power generation industry, and in the case of Mount Piper Power Station was responsible for approving the original 1992 Mt Piper Ash Emplacement area. Council always protects itself and industry against residents, and become a party to the denials, cover-ups. obfuscation, and dishonesty that is standard operating procedure for the power generation and mining industry in this local area.

Unfortunately local residents have no option but the legal system and the Courts.

A Waste Incinerator is widely perceived by the general public as one of the most toxic, dangerous, unpleasant, and evil facilities that any community could ever possibly have to live with. Regardless of how the Proponents is portray this proposal as 'clean energy', 'green energy', or 'safe energy', the community does not buy it.

The deliberate or accidental omissions, half-lies, and untruths in the **EIS** and supporting documents highlighted throughout this submission do not instil confidence in the community. The failure to mention Temperature Inversions, the known Sulfur Dioxide and PAH exceedances, vague description of what the waste feedstock will actually contain, failure to articulate why the chimney stack is so low, known leakage from Mt Piper Ash Emplacement Area, covering up local Land Uses like a commercial Goat Dairy and 90,000 bird Poultry Farm,…..the list goes on. Nothing in the EIS instils any confidence in the community that this Proposal will be managed safely or be adequately regulated.

The unsavoury reputation of sections of the Sydney waste disposal and recycling industry are widely known as well and once again inviting such an industry into our local communities causes much anxiety about whether this Facility ever can or ever will be managed safely, or adequately regulated.

The DoPIE must carefully consider how it satisfactorily addresses all of these issues.

4.0 FILTER BAGS TEAR, MACHINERY BREAKS DOWN – HOW WILL THE COMMUNITY BE PROTECTED

The only protection for the health of the community surrounding this extremely toxic and hazardous Proposal are a few filter bags and handfuls of lime thrown in to capture carcinogenic Dioxins, Furans, PAHs, SO2, NO3, Mercury, Cadmium, Lead, and other heavy metals. **Filter bags tear**!

Failure of Waste to Energy Incinerator filters Information from multi-national waste management company (Veolia) confirms Incineration baghouse filter collection efficiency as the following:

- 95-99% capture for PM10
- 65-70% for PM2.5
- 5-30% capture for particles smaller than 2.5 microns

Howard C.V. The health impacts of incineration. Proof of Evidence submitted to East Sussex and Brighton and Hove Local Plan Public Inquiry, 2003

The Sunday Herald (Scotland) discovered a major incident on 19 June 2001 which lead to Dundee Energy Recycling Limited filing a formal report with Scottish Environment Protection Agency (SEPA).

"A spokesman for SEPA said that a lot of black dust had poured from the incinerator for an hour after filter bags suddenly burst. The pollution emission dials went off-scale, so there were no readings for the amounts that were discharged. The incinerator was shut down and the operators are trying to find out why the filter bags, which were new, had failed"

Waste to Energy Incinerator Accidents and shutdowns occur all around the world, resulting in fires, explosions, and even death to workers:

- 5/10/2016. Explosion at Waste to Energy Incinerator results in two employees critically injured https://www.kxly.com/news/local-news/spokane/waste-to-energyplant-accident-victims-remain-in-critical-condition_20161121034342721/176401413

- 9/08/2017. One man died and two others were critically injured, after an explosion at a waste to energy plant in West Midlands town of Oldbury https://resource.co/article/man-dies-after-oldbury-recycling-plant-explosion-12022

- 29/02/2016. Explosion and fire at Waste to Energy Incinerator in Belgium https://www.endswasteandbioenergy.com/article/1385497/explosion-fire-efw-facility

- 8/06/2017 Eleven hospitalised after an uncontrolled release of a cloud of Lime at Waste to Energy Incinerator in Dublin https://www.irishtimes.com/news/ireland/irishnews/eleven-hospitalised-after-incident-at-dublin-s-poolbeg-incinerator-1.3112097

- 20/01/2013 An energy from waste plant in Scotland was closed down after an explosion and for releasing cancer-causing dioxins up to two-and-a-half times permitted levels http://www.heraldscotland.com/news/13088864.Pioneering_waste_plant_faces_legal_action_after_pollution_leaks_and_an_explosion/

- 2/12/2012 Fire at Waste-to-Energy Incinerator in Panama City, Florida. http://rapperport.com/case-studies/waste-to-energy-incinerator-fire

- 16/09/2016, a fire in the waste incinerator bunker caused poisoning of one person by hazardous fumes. https://www.presseportal.de/blaulicht/pm/116234/3431946

- 23/01/2013 Waste to energy incinerator in Kocaeli burned down. One of the firemen had to be hospitalised, the others were medically treated because they inhaled toxic exhalations during the fire fighting. https://www.memurlar.net/haber/331644/

- Fire at Crymlyn Burrows Giant Incinerator where houses nearby and downwind were contaminated by dioxin http://ukwin.org.uk/2010/02/14/another-fire-at-crymlynburrows/

The DoPIE must require stringent monitoring and other measures to detect breakdowns early.

4.1 THE 'YUCK-FACTOR', property devaluation, tourism and lifestyle impacts

The "Yuck Factor" is defined as *"the wisdom of repugnance" or "appeal to disgust" - the belief that an intuitive or "deep-seated" negative response to a thing, an idea, or a practice is interpreted as evidence of the intrinsically harmful or evil character of that thing*.

A Waste Incinerator is widely perceived by the general public as one of the most toxic, dangerous, unpleasant, and evil facilities that any community could ever possibly have to live with.

Regardless of how the Proponents portray this Proposal as 'clean energy', 'green energy', or 'safe energy', the community does not buy it.

No community in NSW has yet put its hand up to host a Waste Incinerator. Lithgow doesn't want it. Nobody wants it. But the the first sucker that gets lumbered with one will be inundated with a flood of toxic polluting proposals from every corner of NSW. From little things, big things grow.

The air emissions were considered by the EPA and DoPIE as being too toxic for the residents of Eastern Creek. Yet Energy Australia claims those same emissions will be safe for Portland, Wallerawang, Blackmans Flat, Cullen Bullen, Pipers Flat and Lidsdale residents?

If the DoPIE considers this Proposal to be safe and the impacts manageable, then it needs to do the right thing by all those disaffected residents who will never stop fighting until this ERP Plant and/or Mount Piper Power Station are shut down - permanently.

The DoPIE must demand that Energy Australia purchase the Properties and relocate every local resident surrounding the ERP Plant who don't want it, don't deserve it, and have a right to live and raise a family in a safe, secure, clean, and healthy environment.

CONCLUSION

LEG hopes that this submission assists the DoPIE in assessing the impacts of the Mt Piper Energy Recovery Project on those local communities closest to and most affected by this Proposal.

Yours faithfully

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APPENDIX A: NSW Health Sydney West AHS SUBMISSION - 2009 MOUNT PIPER PS EXTENSION

2.7 NSW Health Sydney West AHS

2.7.1 Submission

NSW Health strongly supports the view that the proposed CCGT gas operated plant represents the more acceptable option in terms of human health effects.

The potential increases in exposure to sulphur dioxide from the USC plant is of most concern, but there are other issues in relation to likely increments in other pollutants (mercury, dioxins, PAHs and regional ozone) associated with the USC coal option.

Sulphur dioxide is of most concern due to:

- Existing short-term concentrations exceeding guideline values
- Significant predicted increments with USC option
- Emerging health evidence that more stringent short term sulphur dioxide health guidelines are warranted

High rates of pre-existing respiratory and cardiovascular disease occur in the local area. SWAHS believes that the air quality assessment is based on a year with the lowest air pollution impacts, so that actual air quality may be poorer than predicted.

The location of the peak air pollution impact is on two of the most disadvantaged suburbs in SWAHS, potentially exacerbating existing health inequalities. Tables 8 and 10 in the Air Quality Assessment provide maximum monitored 1-hour SO_2 concentrations at Blackman's Flat and Wallerawang from 2001-2008. This data indicated that the existing air quality criterion has been exceeded in three of the eight years. The modelling suggests that exceedances of the criterion in the domain could have occurred up to 5 times in 2001.

Monitored data averaged over 10-minutes is not provided in the assessment. Estimates of sulphur dioxide impacts of the existing plants averaged over 10 minutes (Table 13) suggest exceedances of the 10-minute criterion occur more frequently than the 1-hour.

The modelling provided predicts that the 10-minute and I-hour sulphur dioxide impacts from the USC plant will exceed the existing Mt Piper impacts, particularly at Wallerawang (Table 13). The distribution of the impacts for the worst hour of the modelled year are shown in Figure 13. This demonstrates that significant increases in sulphur dioxide exposure from Mt Piper are expected over the same region most impacted by Wallerawang power station emissions, which is around the township of Wallerawang. Unfortunately the figure provided does not include the cumulative impact of all three sources.

DECC air quality assessment criteria were set in 2002. Subsequently the World Health Organisation has reviewed the health effects of sulphur dioxide (WHO 2006). The review found that while there was little new information on the respiratory effects of sulphur dioxide, reappraisal of earlier studies had focussed attention on the need to control exposures over shorter periods of time.

A suggestion of a separate effect of sulphur dioxide on the autonomic nervous system emerged in 2001. The WHO review noted that epidemiological studies are detecting adverse health effects

(admissions for respiratory and cardiac disease, mortality) of sulphur dioxide at quite low ambient concentrations.

In regard to birth outcomes, sulphur dioxide has been associated with low birth weight and premature birth in a number of studies (Sram 2005).

The WHO review also recommended that the short term exposure guideline be set for exposure over 10 minutes at 0.0118ppm (500ug.m_3) as this is the exposure period over which acute health effects develop. This is almost 50% lower than the DECC criterion used in this assessment

The health status of people living in the Lithgow LGA is on many measures worse than in other parts of NSW. Some of the villages within this LGA will be those most impacted by emissions from the proposed power plant. These communities already have high levels of relative disadvantage, making them more susceptible to additional health impacts from environmental stressors such as air pollution.

Furthermore people in the Lithgow LGA already experience high levels of morbidity due to respiratory and cardiovascular diseases, the conditions most likely to be aggravated by exposure to sulphur dioxide.

The most recent Air Quality Guidelines from the WHO are emphatic about the need to consider the impacts of air pollution sources on disadvantaged populations. The proposal to continue monitoring of sulphur dioxide and nitrogen dioxide at Wallerawang and Blackman's Flat is also strongly supported.

We have also carefully reviewed the impacts on water quality and availability and under current supply arrangements the proposal does not appear pose any problems in terms of health. Water availability in the Lithgow area is an ongoing issue that requires close monitoring by the relevant agencies.