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Preserving the Balance of Nature

Committee Secretary

Senate Standing Committees on Environment and Communications

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Parliament House

Canberra ACT 2600

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Dear Sir/madam

Re: Submission to the Senate Inquiry on the Retirement of Coal-fired Power Stations

Introduction

The Lithgow Environment Group Inc. (LEG) was established in 2005 to work towards achieving improved water quality, human health, environmental and conservation outcomes for our region.

LEG's Vice President Mr Chris Jonkers was scheduled to present this submission to the Senate Committee Hearing in Sydney at 12:20pm on 22 February 2007. Unfortunately Mr Jonkers was unavoidably delayed, and a replacement speaker could not be found at short notice. We respectfully request that the Committee accepts LEG's submission in lieu.

Thankyou for giving our group the opportunity to speak at this Senate Inquiry today. I am the Vice President of LEG. I am also a long-term Lithgow resident. My father worked at the former State Mine until it closed in 1964, and then at Wallerawang Power Station until his retirement. I worked on construction of Wallerawang Power Station Unit 8 and at the Power Station during the 1970's.

Over the last 10 years Lithgow has lost 50% of its two Power Stations (Wallerawang), and 72% or 9 of 12 operating coal mines (Angus Place Colliery, Baal Bone Colliery, Charbon Colliery, Cullen Valley Mine, Enhance Place Mine, Invincible Colliery, Ivanhoe Colliery, Lambert's Gully Mine, Pine Dale Mine have closed). Only 3 mines are still operating (Springvale, Clarence Colliery, and Airly Mine).

Lithgow Council, the Unions, Minerals Council, and politicians of various persuasions would have this Committee believe Lithgow has become a ghost town after losing 50% of its Power Stations and 72% of its coal mines, and that it can't sustain the loss of Mt Piper Power Station as well.

However, if unemployment rates are a guide, the most recent available figures for the 2016 September quarter show an unemployment rate in Lithgow City of 6.65%. This is lower than the 2006 Census at 8.5% when the Regional NSW average was 7.1%, and lower than the 2011 Census rate of 7.2% when the Regional NSW average was 7.1%. Even during the greatest mining boom Australia has ever seen Lithgow's unemployment rate remained higher than the NSW average.

The Lithgow region appears to be transitioning well from Power Station and coal mine closures, and LEG believes that minimal intervention, regulation, compensation or interference is required.

All my life I and the local Lithgow community have been told that mining and power generation will create jobs and prosperity. Yet my observations over the past 60 years tell a different story -

- Lithgow has not prospered, but has remained stagnant while neighbouring regions such as Bathurst and the Blue Mountains have flourished;
- Lithgow has consistently recorded a higher unemployment rate than the State and NSW Regional average;
- Individual & Family mean weekly incomes have remained consistently lower than the State and NSW Regional average;
- One Lithgow LGA postcode 2846 is in the top 5% of socially disadvantaged postcodes in NSW Postcode 2846 covers the towns of Ben Bullen, Blackmans Flat, Capertee, Glen Davis;
- Two Lithgow LGA postcodes are in the 3rd quintile of disadvantage ie. the 10 to 15% most disadvantaged postcodes in NSW. These were postcodes 2790 and 2847. Postcode 2790 covers Lithgow, Bowenfels, Clarence, Cobar Park, Corney Town, Cullen Bullen, Dargan, Doctors Gap, Ganbenang, Hampton, Hartley, Hartley Vale, Hassans Walls, Hermitage Flat, Kanimbla, Little Hartley, Littleton, Lowther, Marrangaroo, McKellars Paddock, Morts Estate, Oakey Park, Old Bowenfels, Pottery Estate, Rydal, Sheedys Gully, South Bowenfels, South Littleton, Springvale, State Mine Gully, Vale of Clwydd, and Wolgan Valley. Postcode 2847 covers Portland, Meadow Flat and Mount Lambie;
- Towns closest to Mount Piper Power Station (Blackmans Flat, Cullen Bullen and Portland) are in the highest quintile of social disadvantage in the Lithgow LGA;
- The SEIFA index of Education and Occupation placed Lithgow in the lowest 10% of all NSW LGA's based on the 2006 Census variables relating to the educational and occupational characteristics of communities;
- The Lithgow LGA faces serious health issues including significantly higher rates for all cancers, cerebrovascular disease, ischemic heart disease, acute myocardial infarction, all injury, asthma, and diabetes; asthma rates are 80% higher and diabetes more than 100% higher than the NSW average; hospital separation rates are 26% higher than the NSW average; mortality rates for males are 25% higher and for females 40% higher than the NSW average; premature death rates (ie. death occurring before the age of 75 years) are 32% higher than the NSW average;
- To 'protect' the mining industry Lithgow Council has actively opposed proposals to improve tourism opportunities and make the LGA more attractive to new businesses and residents ie. Council actively opposed the Gardens of Stone Reserve proposal, and tried to prevent subdivision of rural blocks because this might attract 'tree-changers' who oppose mining;
- Mining and power generation has created a huge legacy of environmental problems including severe water and air quality impacts; loss of endangered swamp communities, threatened plant and animal species; draining of streams; subsidence damage to homes infrastructure and natural features; and huge scars on the landscape due to unrehabilitated mines, power station fly-ash dumps, and other industrial sites.

The Lithgow Region has paid a very high price for its industrial heritage. Extending the life of coal-fired power stations and coal mines will only exacerbate the above chronic problems.

Furthermore, the World cannot sustain any more coal-fired power stations and coal mines. To meet its obligations under the Paris Agreement Australia must pursue the aim of "holding the increase in the global average temperature to below 2°C of pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5°C above pre-industrial levels" (UNFCCC, 2015).

Some myth-busting is urgently required

LEG asks the Committee to formally recognise that in the lead up to the sale of NSW Government-owned Power Stations, coal mines, and transmission assets over the last 15 - 20 years, many lies were told and many social, health and environmental impacts were covered up as a marketing tactic to increase the sale value and ultimate sale price of these assets.

Now that these asset sales are complete, it is seriously time for both the Federal and State Governments to take a reality check and look at the true costs of coal extraction, coal transport, coal-fired power generation, and fly-ash disposal on community health, water quality. and the environment.

The myth of jobs, wealth and prosperity, the serious social disadvantage, health, air and water pollution, and other environmental issues listed above for the Lithgow region will almost certainly have also been glossed over by State Governments trying to sell Coal-fired Power generation assets in other areas such as the Hunter Valley in NSW, Latrobe Valley in Victoria, Port Augusta in South Australia, Queensland and Western Australia.

LEG reminds the Committee that the original decision to build Mount Piper Power Station was not entirely free of political interference, and may not have been the most economically, environmentally or socially sound decision at that time. We urge the Committee to allow market forces to operate, rather than to prolong the life of Mt Piper through artificial means.

We remind the Committee that when the Greiner Government took office, the then NSW Electricity Commission or Elcom had an estimated debt of \$6 billion. The previous Wran Labor Government wanted to turn the Hunter Valley into an Australian version of Germany's Ruhr Valley. This included aluminium smelters. The Norsk-Hydro smelter closed in 2012 leaving NSW with a 32% electricity surplus. Another smelter proposed for Lithgow fortunately did not get up, otherwise it too would now be closed like Norsk Hydro leaving behind yet another environmental legacy for Lithgow community to deal with.

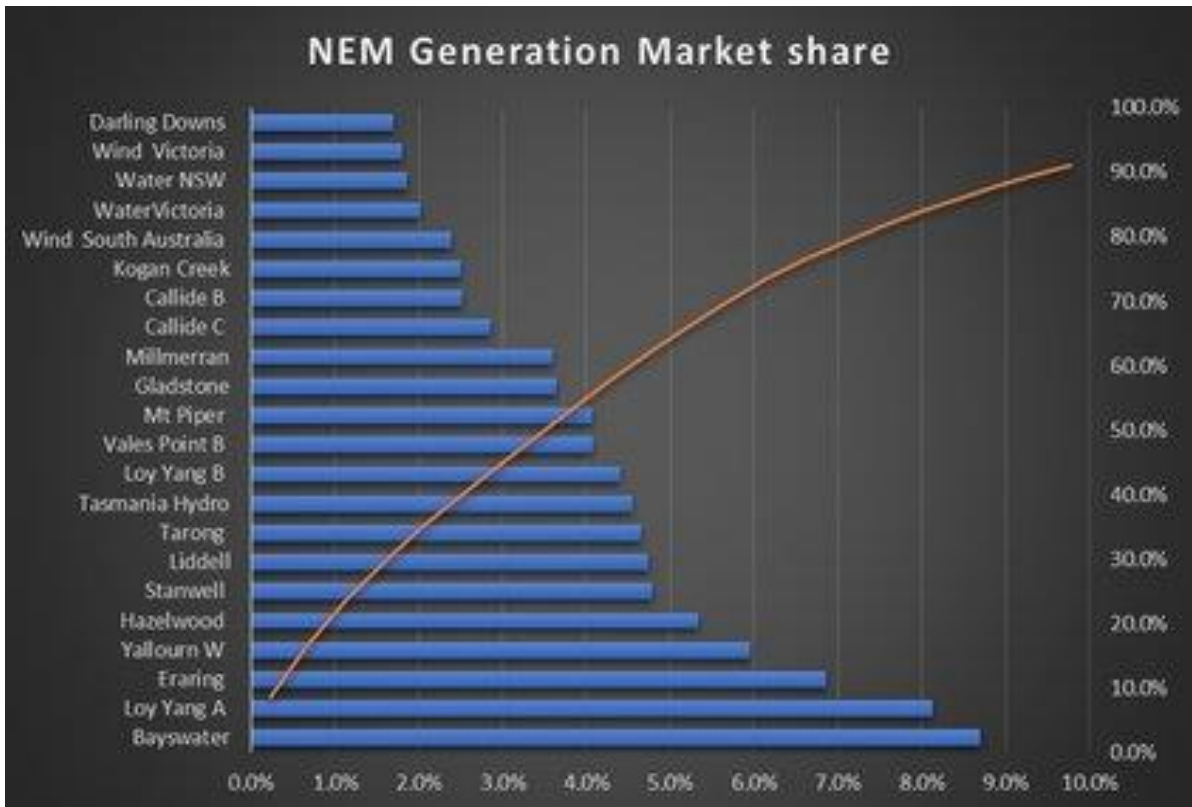
To power these aluminium smelters the Wran Government needed to construct new power stations. Eraring and Bayswater were built, and Mt Piper Power station was being built when the aluminium market crashed and the smelters couldn't be justified. But it was too late to stop Mt Piper, so only two of the proposed 4 units were originally built and its opening was delayed until 1992. Some argue that the Lithgow region never had enough coal to supply both Wallerawang and Mount Piper Power Stations for their projected life span of 50 years.

This coal supply issue and energy surplus issue at Mount Piper PS is equally relevant today.

Energy Over-supply

Despite Wallerawang Power Station (1000 MW) closing in 2014. Mount Piper Power Station (1400 MW) only operated at 76% in 2014, according to a report by China Light and Power (CLP) to the Hong Kong Stock Exchange. CLP reported that the utilisation rate at Mount Piper fell even further in 2016 to 45% capacity. This flies in the face of claims in the Lithgow Mercury in 2014 when Wallerawang Power Station closed that "the lights would go out in Sydney".

According to the National Energy Market (NEM) on 2 February 2017 Mount Piper produced just 4% of Australia’s generating capacity from all 22 “generators” in the past 12 months.



The NEM had a surplus of available energy in the 2014-15 financial year of between 7,650 and 8,950 megawatts, particularly in New South Wales, Victoria and Queensland.

LEG asks the Committee to consider what would happen if another Aluminium Smelter closed? The Kurri Kurri and Point Henry smelters have already closed, and soon there will be Ford, Holden, and Toyota closures. What if one or other of Bell Bay (Tas), Boyne Island (QLD), Portland (VIC) or Tomago (NSW) aluminium smelters closed? Surely at least one other coal-fired power station will also need to close?

Clearly Mount Piper is not indispensable in the overall energy mix. Mt Piper is currently 23 years old. Wallerawang Power Station closed at 38 years of age. No one expects a thermal power station to run at 100% capacity all the time. But when utilisation rates drop to 45% as they have done at Mt Piper Power Station in 2016 then LEG believes the Committee must seriously consider whether the known human health and environmental impacts are worth it for such a low output?

Health impacts of coal fired power stations

The Lithgow region faces some serious health Issues, outlined in Lithgow Council’s Social Plan 2006-2011 www.council.lithgow.com/publications/socialplan0611revised08.pdf , as well as being widely reported by the Sydney West Area Health Service (SWAH) and the wider Media. A short list can be found on page 2.

Many of these issues such as Asthma rates 80% higher than the NSW average can be related to coal-fired power generation. It has been widely reported that the three main pollutants from coal-

fired power stations are sulphur dioxide (SO²), nitrogen oxides (NO_x), and particulate matter in the PM₁₀ or PM_{2.5} size range. SO² and NO_x are both powerful respiratory irritants, causing asthma, chronic lung disease, and restricted lung growth in children. Fine particle pollution causes similar respiratory problems but is also associated with ischaemic heart disease, lung cancer, and increased mortality.

These pollutants can travel long distances, so even though Mount Piper Power Station may be located over 20km from Lithgow and 100km from Sydney, under prevailing winds this pollution can easily affect the Lithgow, Blue Mountains, and Sydney air-sheds. Research by CSIRO and the Australian Nuclear Science Technology Organisation (ANSTO) showed that half of the sulphate particles in the airshed at Richmond in western Sydney could be traced back to Wallerawang and Mount Piper Power Stations despite the fact they were over 90km away.

The Sydney West Area Health Service report on the proposed 2010 expansion of Mount Piper Power Station (MP 09_0119) is attached as Appendix 1. It contains very serious concerns, such as

“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 SO₂ 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.”

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.”

In addition, coal extraction and coal transport to Mount Piper Power Station causes significant health issues. The Sydney West Area Health Service (SWAHS) submission on 12 September 2012 on the Coalpac Consolidation Project (10-0178), an open-cut mine designed to supply coal to Mount Piper Power Station, predicted that:

“The annual guideline for PM₁₀ recommended by the WHO of 20ug/m³ is expected to be exceeded in parts of Cullen Bullen township at each of the modelled time points in the Environmental Assessment.,the 30 - 100% increase in exposure to particulate matter predicted for residents of Cullen Bullen may result in a range of respiratory health impacts such as exacerbations of chronic obstructive pulmonary disease and asthma and mortality”.

LEG urges the Committee to consider that while the climate change effects of coal-fired power are distant and delayed, the air pollution effects on the Lithgow community are immediate, ongoing,

and cumulative – and should be taken into consideration in planning the transition away from all forms of power generation using fossil fuels.

In addition to SO², NO_x, particulate matter, dust and diesel fumes, the community of Blackmans Flat and Lidsdale have long had to deal with fly-ash dust blown from the coal ash dumps associated with Wallerawang and Mount Piper Power Stations. The dust has been so bad for residents that travellers along the Castlereagh Highway have on occasion rung the Cullen Bullen Rural Fire Brigade thinking there was a bushfire. Fly-ash is very harmful for health, as recently reported by the Mayor of Port Augusta City Council when flyash dust plumes from the closed Northern Power station blanketed that town. Inadequate environmental mitigation could see problems re-emerge at Wallerawang PS's fly-ash dump at Kerosene Vale. And any relaxation of standards could see a re-emergence of flyash dust problems from the Mount Piper Ash repository.

Jobs. Jobs, Jobs

LEG believes the adage that one coal-mining or power generation job supports three-and-a-half other jobs in the region's economy is a nonsense. It just does not stack up when the current unemployment rate in Lithgow City is 6.65%. This is despite the fact 50% of Lithgow's Power Stations and 72% of its coal mines have closed in the last 10 years. The current unemployment rate is lower now than during the greatest mining boom Australia has ever seen.

Lithgow Council and the Union's often claim there are 1500 – 2000 workers directly or indirectly employed in mining. Yet the most recent 2011 Census figures show 1120 people employed in mining, and that was with 11 mines operating. There are now only 3 mines operating - Springvale Colliery which employs at best 300, Clarence Colliery which employs at best 200, and Airly Mine which employs 70. Therefore there are no more than 570 actual local coal mining jobs, a far cry from 2000. And not all these workers live in the local Lithgow area.

Similarly while the figure of 200 jobs is often bandied about at Mount Piper Power Station. LEG challenges the Committee to sit outside the gates for a 24 hour period and count the number of workers that present each day. There are only a handful, except during major shutdowns, when contractors come in from outside the area.

LEG therefore urges the Committee to look in depth at the true number of LOCAL LITHGOW WORKERS that may require 'just-transition' from coal fired power generation, because the actual number of LOCAL workers that has been regularly promoted is fanciful at best.

LEG is strongly opposed to alternate fuel burning proposals

The subject of alternative fuels being burnt at Mount Piper Power Station regularly crops up as a solution to burning coal. Trials on woodwaste have been attempted with reportedly disastrous results. There have been other recent proposals to burn tyres, municipal waste, native forest harvesting, and methane from municipal waste. LEG questions whether such proposals are 'clean', economically viable, and has serious concerns about the likely collateral health and environmental impacts of such proposals. LEG strongly urges the Committee to reject any such proposals.

Unsustainable Water Quality Impacts

LEG has been monitoring water quality at some 30 sites in the upper Coxs River catchment since 2006. This has given us a deep understanding of the water quality issues associated with coal mining and power generation.

Springvale Coal Services discharge point LDP006 adjacent Mount Piper Power Station is by far the most polluted watercourse in the entire Lithgow LGA. The EPA and Sydney Catchment Authority will attest to this. When LEG first commenced monitoring in 2006 the Salinity level at LDP006 was 1200 uS/cm. already disturbingly high when the ANZECC Guideline trigger value for an inland stream is 350 uS/cm. However, that salinity level has since quadrupled to 5190 uS/cm in June 2016. Salinity may quadruple again in the next 10 years unless this issue is seriously addressed.

Mount Piper Power Station produces large amounts of brine with a salinity level 3 times saltier than seawater (120,000 - 150,000 uS/cm) which it dumps in Mt Piper Fly-ash repository. It is widely known that the high salinity levels in the Springvale LDP006 discharge are due to leachate from Mount Piper Ash repository.

The salinity levels being generated by Mount Piper Power Station and the coal mine which supplies it (Springvale Colliery) are already causing serious environmental harm to all aquatic life downstream in the Coxs River. The NSW OEH estimated that some 10,000 tonnes of salt EACH AND EVERY YEAR are being dumped by Springvale Colliery into the upper Coxs River Catchment and Sydney's Drinking Water Supply – the main source of water for 4.5 million people.

In addition the OEH's water quality assessment in their Appendix B submission on the Springvale Mine Extension Project identified that the Cxos River would be polluted by-

- an additional 530 - 980 tonnes of Sulphate per year (approx);
- an additional 10 - 20 tonnes of Total Nitrogen per year (approx);
- an additional 0.06 - 0.155 tonnes of Arsenic per year (approx);
- an additional input of 0.3 - 0.6 tonnes of Barium per year (approx);
- an additional 0.2 - 0.4 tonnes of Molybdenum per year (approx);
- an additional 0.025 - 0.075 tonnes of Nickel per year (approx); and
- an additional input of 0.1 - 0.7 tonnes of Zinc per year (approx).

These are staggering figures, and neither the Coxs River nor the Sydney Drinking Water Catchment can sustain such massive additional pollutant loads!

The historical local attitudes of Council, the Union, Mining and Power Generation industries to the Coxs River is that it is already stuffed, so why not stuff it over some more. This is neither ethically, morally, socially or environmentally acceptable in making decisions that will affect the Coxs River and Sydney Drinking Water Supply for the next 20 to 30 years.

The community relies upon the Federal and NSW Government to make frank and fearless decisions to protect community health and environmental health from the impacts of coal mining and coal-fired power generation.

LEG strongly urges the Committee to place a high priority on the impact of minewater discharges and power station water discharges (direct and indirect thru seepage) into the Sydney Drinking Water Catchment in determining the retirement of Coal-fired Power Stations.

CONCLUSION

We thank you for this opportunity to provide comment to this Senate Inquiry, and trust that the above submission meets with your favourable consideration.

Yours sincerely,

Chris Jonkers - Vice President
Lithgow Environment Group Inc.

APPENDIX 1

Sydney West Area Health Service Submission on Mt Piper Extension (MP 09_0119) 2009

Environmental Assessment
Mt Piper Power Station Extension

Submissions Report

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 SO₂ 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 1-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.

SINCLAIR KNIGHT MERZ

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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.m³) 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.

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