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Essential Services Commission  
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Dear Sir/Madam,

Alcoa of Australia Limited (ABN 93 004 879 298) has applied for a licence under the Electricity Industry Act 2000 to generate electricity at the Anglesea Power Station, Victoria.

The Commission may grant or refuse to grant a licence for any reason it considers appropriate having regard to its objectives under the Essential Services Commission Act 2001 and the Electricity Industry Act 2000. I have referred to several of these objectives below.

My background in brief is that I am a medical practitioner (neurologist) and medical educator, as well as currently raising a young family. I am a full-time resident of Anglesea, having considered this location as one ideally suited for raising children. I have since developed misgivings in this regard, having availed myself of more information regarding Alcoa's operations near Anglesea, as well as the current medical literature surrounding the health effects of coal dust and burnt coal byproducts. I am unashamedly biased by my desire to promote the wellbeing of my family first and foremost, and by extension, the welfare of the residents of Anglesea and the Surf Coast. I declare no other conflict of interest in this matter, in particular no financial interests in the outcome of the licence application.

My submission incorporates the Commission's objectives as requested;

**Version No. 030**  
**Essential Services Commission Act 2001 No. 62 of 2001 Version incorporating amendments as at 1 July 2008**

**Objective of the Commission**  
**In performing its functions and exercising its powers, the objective of the Commission is to promote the long term interests of Victorian consumers.**

Surf Coast residents are obviously Victorian consumers, and during the busy summer months the population of this region can swell ten-fold. Living and holidaying in close proximity to a coal mine and coal-fired power plant utilizing 1960s technology is not promoting the interests of these consumers. The harmful effects of air pollution are well-documented via a rapidly increasing body of peer-reviewed medical evidence in respected publications. To name just two key concerns:

1. Alcoa's Anglesea power station produces over 3 times the volume of Sulfur Dioxide (SO<sub>2</sub>) per annum as Hazelwood power station (our state's most notorious polluter).

*Australian Government Department of Sustainability, Environment, Water, Population and Communities National Pollutant Inventory Alcoa Anglesea Power Station.*

<http://www.npi.gov.au/npidata/action/load/emission-by-individual-facility-result/criteria/state/VIC/year/2011/jurisdiction-facility/00004359>

SO<sub>2</sub> is a well-documented respiratory irritant that acutely precipitates asthma and other lung diseases in vulnerable populations (children and the elderly in particular), and is associated with low birth weight amongst other health issues.

*Castleden, Shearman, Crisp and Finch The mining and burning of coal: effects on health and the environment Med J Aust 2011; 195 (6): 333-335*

<https://www.mja.com.au/journal/2011/195/6/mining-and-burning-coal-effects-health-and-environment>

2. Inhaled particulate matter, with coal mining and burning recognized to be crucial sources, has been proven to measurably increase mortality in populations living in high risk areas, including via documented carcinogenicity.

*2. International Agency for Research on Cancer, World Health Organisation. Press Release No 221, 17<sup>th</sup> Oct 2013. IARC: Outdoor air pollution a leading environmental cause of cancer deaths. [http://www.iarc.fr/en/media-centre/iarcnews/pdf/pr221\\_E.pdf](http://www.iarc.fr/en/media-centre/iarcnews/pdf/pr221_E.pdf)*

The broader implications for Victorian consumers include the increased public health expenditure resulting from higher rates of hospitalization and serious illness experienced by Surf Coast residents. Any economic arguments concerning energy generation proposals that require the burning of coal, are redundant without consideration of health costs.

## **Matters which the Commission must have regard to**

**(1) In seeking to achieve the objective specified in section 8, the Commission must have regard to the following matters to the extent that they are relevant in any particular case—**

**(a) efficiency in the industry and incentives for long term investment;**

Efficiency is clearly a concept that cannot be applied to a coal-fired power plant built in 1961. The only means by which this antiquated installation continues to function is through generous subsidies perpetuated by successive state governments over decades. The question of long-term investment incentives can be readily answered by looking at Alcoa's history of investing in this installation, which essentially amounts to token community cash handouts in order to prevent scrutiny, lip service "sustainability" policies, and sham health reports, with no meaningful attempt to improve either efficiency or health risks associated with their harmful enterprise. The power station is small, hopelessly outdated, and Alcoa have shown no appetite for investment in crucial pollution-reduction strategies, such as installing SO<sub>2</sub> "scrubbers" (although Alcoa have previously investigated scrubber options in

Anglesea, they have deemed this investment unfeasible, yet have had no such qualms regarding similar installations in their home base of the USA).

## **(b) the financial viability of the industry**

The comments regarding point (a) can be applied more broadly to the coal industry, which relies on heavily polluting fuel and associated outdated technology, clearly in the firing line when it comes to international consensus action mitigating climate change. The consensus expectation is that rapidly developing sustainable energy production technologies will (by necessity) entirely supersede coal-based methods over the ensuing years.

## **(d) the relevant health, safety, environmental and social legislation applying to the industry**

As already discussed, health issues are the cornerstone for my argument against granting a licence for ongoing pollution in the Surf Coast region. The close proximity (less than 1km) of the coal mine and power station to the Anglesea community, particularly the primary school, kindergarten and aged care facilities, is a situation that would not be countenanced in any new development proposals, and the same principle should also be applied to this specific application.

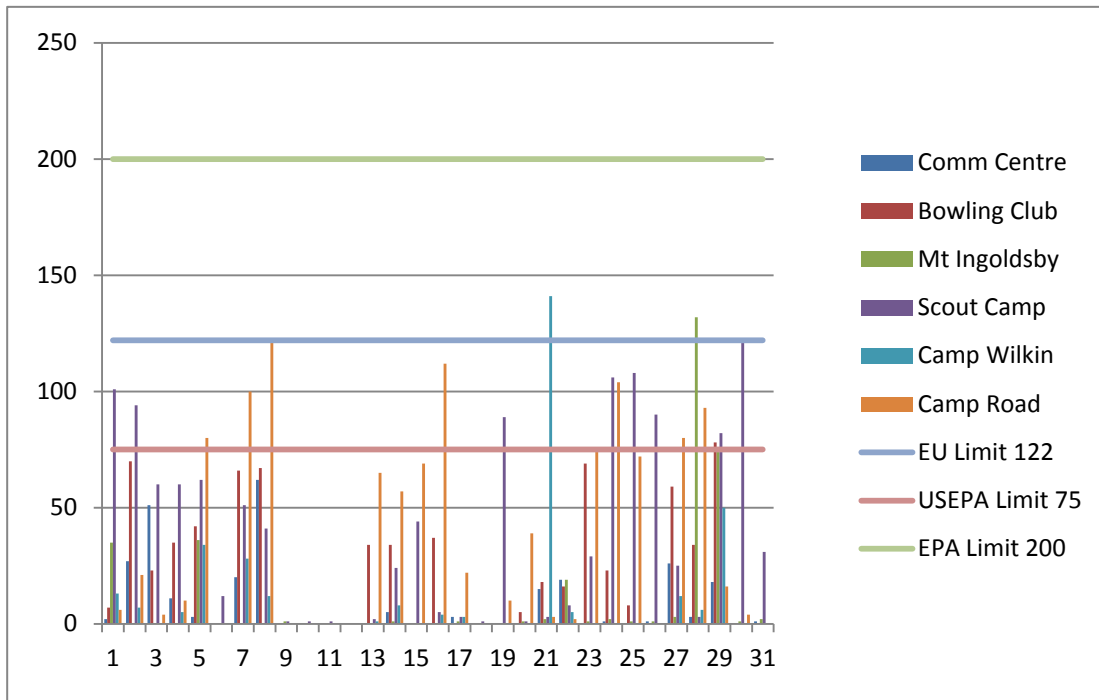
Particulate matter and SO<sub>2</sub> are the key local concerns based on available evidence, but the data remains incomplete, and the list of pollutants generated by coal mining and burning is extensive. Alcoa themselves have acknowledged no understanding of the potential synergistic effects of multiple pollutants acting on the same population simultaneously. Despite repeated Alcoa claims to the contrary, no reassurances about “safe” levels of exposure to these environmental toxins can be given, on the basis that there is no documented lower threshold for harmful health effects. Alcoa’s statements of safety in any case are based on outdated standards for acceptable levels of air pollutants. As Chief EPA Scientist Lynette Denison states: “there is no safe level of exposure to SO<sub>2</sub>” and “current standards do not adequately protect the community”.

*Denison, Lynette. Victorian Civil And Administrative Tribunal Dual Gas Demonstration Project Works Approval WA 67043 Expert Report, October 2011*

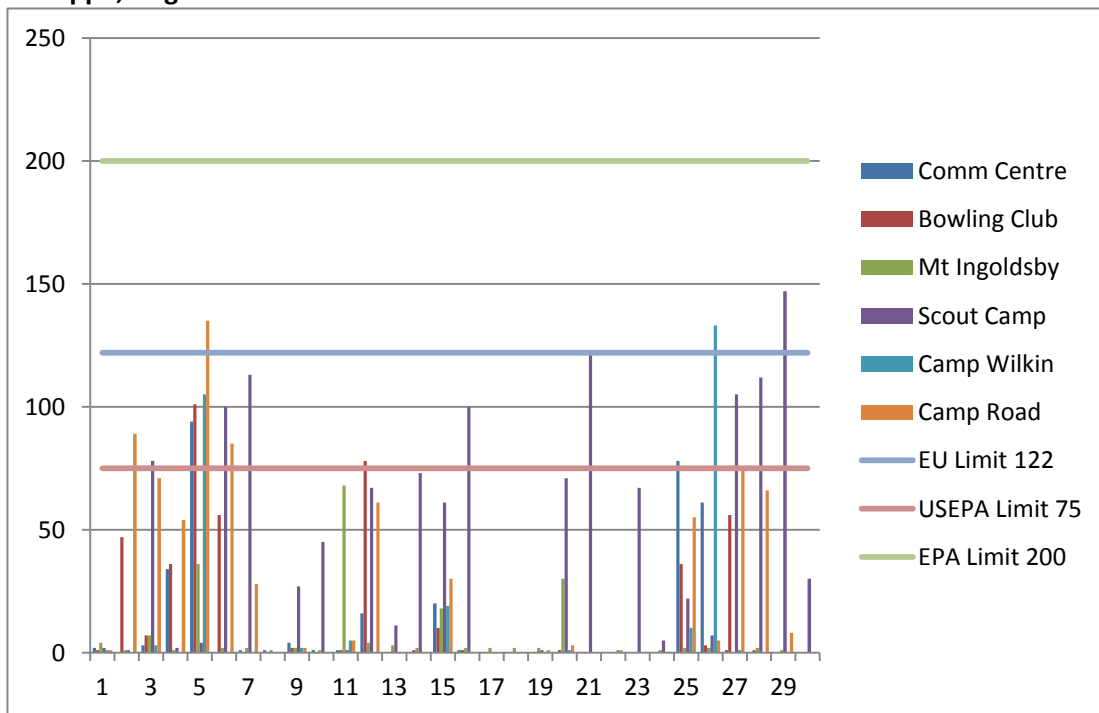
[http://www.epa.vic.gov.au/compliance-enforcement/comments/dualgas-docs/L\\_Denison\\_Expert\\_Report.pdf](http://www.epa.vic.gov.au/compliance-enforcement/comments/dualgas-docs/L_Denison_Expert_Report.pdf)

As an illustration of this point, Alcoa publish monthly ambient SO<sub>2</sub> data retrospectively on their website. Even accepting that this is not externally-validated monitoring via an independent source (a much preferred option), the data demonstrates consistently that Alcoa would be unable to operate their power plant in the USA or Europe, where more stringent ambient SO<sub>2</sub> guidelines exist. Note the tighter USEPA and EU limits are regularly exceeded in multiple Anglesea locations, and yet Alcoa are content to use outdated local regulations to promote their message of a “safe” environment for locals. The key extension of this discussion is that when EPA regulations are inevitably updated and tightened in this country (as has been occurring in other developed nations), the power station will be rendered non-viable. Even in the current regulatory environment, Alcoa is only able to comply with EPA regulations by regularly scaling back the plant’s output during higher risk

ambient weather conditions, rendering the station even more inefficient and therefore unnecessarily costly. This represents Alcoa's sole concession towards investing in harm minimisation throughout a 50+ year period of operation in the region – hardly a glowing endorsement for their supposed interests in supporting the local community.



**Graph 1: Peak Hourly Ambient SO2 Concentrations at Anglesea Monitoring Stations expressed as 1 hour ppb, August 2012<sup>3</sup>**



**Graph 2: Peak Hourly Ambient SO2 Concentrations at Anglesea Monitoring Stations expressed as 1 hour ppb, September, 2012.**

Source: Alcoa Environment Reports (with USEPA and EU limits added)  
[http://www.alcoa.com/australia/en/info\\_page/anglesea\\_er\\_2012.asp](http://www.alcoa.com/australia/en/info_page/anglesea_er_2012.asp)

**No. 68 of 2000 Electricity Industry Act 2000**  
**[Assented to 21 November 2000]**

Objectives of the Office The objectives of the Office under this Act are—


- (a) to promote competition in the generation, supply and sale of electricity;
- (b) to ensure the maintenance of an efficient and economic system for the generation, transmission, distribution, supply and sale of electricity;
- (c) to protect the interests of consumers with respect to electricity prices and the safety, reliability and quality of electricity supply;
- (d) to facilitate the maintenance of a financially viable electricity supply industry.

I will not attempt to argue the economic principles of competition within the electricity industry, as this is outside my scope of expertise. I am qualified however to speak on health matters as noted above, and to interpret available scientific data. I also can speak as a representative of the Anglesea / Surf Coast community, as well as an electricity consumer, and I urge the Commission to prioritise the interests of ordinary Victorian citizens ahead of the designs of a multinational mega-corporation. Alcoa have shown their hand in applying for this licence, clearly indicating they plan to close Point Henry's smelter within the next 12 months. The Anglesea power station has primarily been supporting this smelter via electricity concessions over the last 50 years. This leaves Alcoa with no credible claims of supporting local manufacturing or employment in the Geelong region, and clearly their only remaining interest is to hold onto the Anglesea mine and power station as a mindless profit-making enterprise. This only remains feasible given the lack of external environmental and health-related regulation of their operations, as well as the generous taxpayer-funded concessions they continue to receive.

In refusing to grant this licence, the Commission will simply acknowledge the inescapable truths – that the current outdated and comparatively tiny power station has no remaining utility in providing electricity for Victorians and is not worthy of any further investment, and that the health risks incurred from the ongoing operation of such a facility far outweigh any economic benefits to the community.

Thankyou for you kind consideration, and for taking the time to read my submission.

Yours Sincerely,

A handwritten signature in black ink, appearing to read 'Cameron Shaw', written in a cursive style.

Dr Cameron Shaw

Barwon Health and Deakin University