

The Independent Planning Commission of New South Wales.
Level 3, 201 Elizabeth Street
SYDNEY NSW 2000.

04 August 2019.

RE: Rix's Creek South Continuation of Mining Project SSD 6300.

Dear Commissioners,

My name is Chris Knight, I am an environmental scientist with a Master's Degree with Distinction in Environmental Management and a Bachelor's Degree in Science (Geology) from the University of Newcastle. I have over 20 years coal mining experience and two and a half (2 ½) years' experience as a senior environmental regulator with NSW Government. I am also currently studying towards a Masters in Environmental Law.

I write to the commission in strong support of the Rix's Creek South Continuation of Mining Project SSD 6300.

I would like to provide the following opinions and thoughts for your consideration of the Rix's Creek Project as a resident of New South Wales;

Environmental Benefits of the Utilisation of Hunter Valley Coal – A Geological and Coal Marketing Evaluation.

The Hunter Valley must continue to mine coal for overseas supply to minimise global emissions of CO₂ while also minimising the amount of the trace elements associated with the utilisation of coal. Hunter Valley coal is used for steel generation, cement manufacture, electricity generation and chemical manufacture. The coal that is mined in the Hunter Valley benefits direct and indirect employment in our region, but also benefits others across the world, mainly Asia, by providing cheap, reliable electricity which increases and maintains the standard of living to both developed and developing countries.

The coal mined in the Hunter has a higher calorific value and contains lower trace elements of mercury, boron, arsenic and selenium than other international coals. Dale, (2006), notes that *"the most significant difference between the Australian and international coals was in the levels of arsenic, selenium, mercury and boron. Australian coals contained substantially lower concentrations (up to 35 percent of the levels in the international coals) of these elements which are of major environmental concern."* Continued supply of Australian coal will therefore reduce the overall environmental impact through the utilisation of Australia's cleaner coal comparatively to what is supplied by China or Indonesia.

The majority of thermal coal sold through the Port of Newcastle (Global Coal Newcastle Index) is sold at a base calorific (energy) value of 6000 Kcal/kg NAR (Nett as received). Export traded coals from other Pacific coal producing Countries are at a much lower calorific value (CV). The CV of Chinese traded coals range from 3800 Kcal/kg NAR to 5500 Kcal/kg NAR while Indonesian coals range from 3540 Kcal/kg NAR to 5640 Kcal/kg NAR. (Coal Trader International -S&P Global Platts 2019).

Purchase of the highest CV Indonesian coal would result in a lower calorific value in comparison to Hunter coals of 360 Kcal/kg NAR which equates to a difference in energy of over 25.2 Billion (25.2×10^9) Kcal per Panamax vessel (about 70,000t of coal). Using an estimated export coal tonnage per annum through the Port of Newcastle of 160 Million tonnes, this equates to an energy difference (Loss) of 57.6 Trillion (57.6×10^{12}) K/Cal by supplying lower CV Indonesian coal rather than higher energy Hunter Valley Coal.

A higher calorific value coal contains lower ash (and lower moisture). Therefore the additional benefit of the utilisation of Hunter Valley coals in comparison to the use of Chinese or Indonesian coals is the reduction in the resultant amount of residual ash. This residual ash, being a lower amount, therefore requires less energy for transport, less energy for handling, less energy for fly ash capture, ash storage and ash disposal. (Including the reduction in risk to air quality or groundwater from a lower percentage of trace elements in ash). If the overseas coal is higher in moisture the lower energy is due to the energy required to drive off moisture. (In a transport sense, you are paying money to buy water and using energy to transport water).

If the Hunter Valley does not continue to provide low ash high energy thermal coal, and users decide to purchase lower energy coal from Indonesia, this will equate to an extra 10.2 Million tonnes of lower energy Indonesian coal which will be required to be extracted, processed and transported to meet the same energy requirement.

Continued supply of Hunter Valley thermal coals to overseas markets will generate lower amounts of pollution and CO₂ for countries reliant on thermal coal for electricity generation and cement manufacture in comparison to use of Indonesian or Chinese coal.

In summary if the IPCN does not continue to approve coal mining projects in the Hunter Valley it will be directly responsible for;

- Increased carbon emissions due to the increased volume and use of lower energy coals from other non - Australian suppliers (ie China, Indonesia).
- Increased carbon emissions due to the increased energy required to transport and handle a higher volume of lower rank, lower CV coal from non- Australian suppliers to meet the equivalent energy demand of the customer Countries.
- Increased carbon emissions due to the extra energy required for the increased volume of ash and overall tonnes required to be processed, handled, captured, stored and disposed due to use of the higher ash, lower energy coal supplied from countries other than Australia. (ie China , Indonesia).
- Increased amount of trace elements released to atmosphere or groundwater by use of coal other than Australian lower trace element coals.

The IPCN must consider the benefits of the supply of Hunter Valley low ash, high energy, low trace element coal to overseas markets in preference to the supply of high moisture, moderate ash, moderate energy, higher trace element coal from non-Australian suppliers (ie China , Indonesia) to customers who will burn any available coal to meet their thermal energy supply demand. The supply and reliance of lower emission, higher energy Hunter Valley Coal will assist to meet the Customer Country's commitments under the Paris Agreement or any other internal (Domestic) carbon emission reduction commitments.

Please take the above points into consideration as part of the assessment for the Rix's Creek South Continuation of Mining Project.

Professional and Personal Association with the Rix's Creek Mine

I have been involved with the Rix's Creek Mine (RCM) since March 2015 as either a Senior Compliance Officer for the Department of Planning and Environment (DPE)- Resource Assessments, or as the Environmental Manager for the Bloomfield Group responsible for Rix's Creek Mine.

I submit this to you as a resident of NSW who has a working knowledge of the Bloomfield Group from "both sides of the fence". During my time as a senior environmental compliance officer with NSW Department of Planning, (DPE), I was at times the assigned officer responsible for regulation under the Environmental Planning and Assessment Act (1979), for all coal mines within the Hunter Valley and Central Coast which held a State Planning Consent. I note this to demonstrate my experience to make the following statements.

In my opinion the Bloomfield Group manage their operations in accordance with environmental best practice. This includes reduction of dust to minimise air quality impacts, modifying or ceasing night time operations to minimise noise impacts to the surrounding community and postponing blasting when the environmental conditions are not favourable.

Rix's Creek Mine utilise a state of the art forecasting system for air quality, noise and blasting. Prior to joining the Environmental team at RCM I reviewed this system for use at another mine site I was working at. At that time the system was being developed by Rix's Creek Mine in conjunction with Todoroski Air Sciences. I also reviewed this system later as the Senior Compliance officer for DPE. At both times I was impressed with the system and the way that the mine uses the information and pre-emptively modifies its operation based on the forecast. The mine uses the information from the model to guide where the noise management personnel should be located within the surrounding areas based on the predicted enhancement.

As a previous senior compliance officer responsible for all mines in the Hunter and Newcastle Coalfields, the dust management practices used at Rix's Creek Mine exceed environmental best practice. Rix's Creek Mine commonly use water carts to soak dig faces, to actively reduce dust from loading operations, and operate an extra water cart above their general requirements.

From my personal observations, the Bloomfield Group hold a strong commitment to Environmental Management and Compliance. It is my observation that the company has always been willing to discuss issues with regulators and notify regulators when issues arise.

I am proud to say that my family have been involved with Coal Mining for five (5) generations. My entire family, my Sister and five of my six Cousins are all supported by wages from coal mining right here in the Hunter Valley. I work with the husband of one of my Cousins at Rix's Creek South, he is an operator supporting my cousin,(his wife), and two (2) boys with another child on the way, myself supporting a wife and three (3) girls.

My Cousins and my Sister's families are all employed, are all raising a family, paying off a house and of course paying taxes. They all benefit from the employment from the Coal Industry here in the Hunter.

I have now worked at Rix's Creek Mine for well over one and a half years (1 ½) and have become part of the Rix's Creek family. I have met some fantastic people all dedicated to

safe, efficient and environmentally responsible mining. I am proud to be employed by an Australian Mining Company.

Please approve the Rix's Creek South Continuation of Mining Project SSD 6300.

Yours sincerely,

Christopher Knight. MEnvMgt, BSc(Geol), MAIG, JP.

Bibliography:

Dale, L. S. (1995) – Trace elements in internationally traded coals. ACARP Project C3096. End of Grant Report, 25pp.

Dale, L.S (2006) - Trace Elements in Coal. ACARP Newsletter No.2.