



Fw: Morwell Mine Fire Submission

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Submission

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Hazelwood Inquiry info/DPC@DTF
11/05/2014 11:26 AM

To Hazelwood Inquiry
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cc
bcc
Subject Morwell Mine Fire Submission

Title: Mrs

First Name: Lorraine

Surname: Bull

Organisation represented (if applicable): Latrobe Valley
Sustainability Group

Email address: [REDACTED]

Home or office phone: [REDACTED]

Mobile: [REDACTED]

Content of submission (you can choose multiple): Response to fire by
Public Health Officials, Response to fire by Other Government
Agencies, Other (please state)

If Other please state here: For Health Study

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SUBMISSION TO VICTORIAN DEPT OF HEALTH re. HAZELWOOD MINE HEALTH STUDY

The Centre for Air Quality and Health Research and Evaluation (1) in reference to the Hazelwood mine fire says 'There is almost certainly important knowledge to be gained about the health impacts. Given the rarity of coal mine fires, particularly those involving brown coal, and the dearth of current evidence specific to this hazard, it is important that health outcomes in the exposed population are monitored to inform the public health response to future similar events, in Victoria and elsewhere'.

The smoke engulfed the town for 45 days, causing great discomfort and inconvenience to the residents. Immediate effects reported included asthma, other breathing difficulties and exacerbation of existing respiratory conditions, eye nose and throat irritations, nose bleeds, skin rashes, headaches, vomiting, unexplained lethargy and community distress. The starting point of the study should be to determine if any of these conditions are ongoing, as well as any emergency hospital admissions for cardiovascular, respiratory problems or psychological difficulties during and immediately after the fire. Coal and coal waste products (including fly ash, bottom ash and boiler slag) release approximately 20 toxic-release chemicals, including arsenic, lead, mercury, nickel, vanadium, beryllium, cadmium, barium, chromium, copper, molybdenum, zinc, selenium and radium, which are dangerous when released into the environment. While these substances are trace impurities, if enough coal is burned then significant amounts of these substances are released. Coal burnt in a power station is done so almost completely at very high temperatures. The smoke is filtered before release, for protection of the environment. During the mine fire, coal was incompletely burnt at a reported temperature of 150C, and containment of the emissions was impossible.

During combustion, the reaction between coal and the air produces oxides of carbon, including carbon dioxide, oxides of sulfur (mainly sulfur dioxide), and various oxides of nitrogen. It has been estimated that release of greenhouse gas (CO₂) during the fire was estimated to be equivalent to one year of emissions from Hazelwood power station.

Because of the hydrogenous and nitrogenous components of coal, hydrides and nitrides of carbon and sulfur are also produced during the combustion of coal. These include hydrogen cyanide, sulfur nitrate and other toxic substances. Pollutants emitted by burning coal include ground level ozone and fine particulates as small as PM_{2.5}. During the first few weeks of the fire the density of these fine particles reached almost 2000 ppm, when the 'extremely poor' level is 150ppm. They are so small that they may get into the blood stream via the lungs and can be transported beyond heart and lungs, to sites like brain and kidneys.

The principal health concern resulting from the Hazelwood mine fire is whether the prolonged exposure to toxic smoke has had any adverse medium and long term effect on Morwell residents, but the most immediate effect was on those close to the mine, including myself and my neighbours.

The study should monitor incidence/worsening of respiratory and cardiovascular disease, psychological impact especially on children, and variation to incidence of cancer. Cancer could be readily monitored with the involvement of Cancer Council Victoria, as detailed in The Victorian Health Priorities Framework 2012–2022.

Current and future pregnancies, birth weight, cord blood and other birth monitoring and all birth defects should be observed for several years. This should include congenital disease, which may not be immediately obvious at birth.

For many years I have heard rumours of cancer clusters and raised incidence of asthma and respiratory disease in the Latrobe Valley, without being able to find evidence to back up these claims. If true, health authorities should be aware and proceed to undertake investigation as to the cause. What statistics can the Dept of Health provide?

I am aware asthma and COAD are very common reasons for hospital admission, but are these higher than other areas? The only published study appears to be 'Air pollution in the Latrobe Valley and its impact upon respiratory morbidity.' by T Voigt, M Bailey, M Abramson (2) which concluded 'Respiratory morbidity appears to be affected even by the low air pollution levels in the Latrobe Valley.

Diagnosis of cancer is also common. Cancer Council Victoria statistics for the Latrobe Valley from 2008-2010 show 884 people diagnosed, and 360 deaths associated with cancer, in a population of about 70,000. The LV Express article (3) did not include any clarification regarding principal or secondary diagnosis, or post code of patients.

The scope of the study raises some difficulty, as the objective is to document any ill effects of the fire. This would require a pre-fire baseline which is not available. One alternative is to compare Morwell residents with another brown coal community living in close proximity to a mine, such as at Anglesea, where one polluted environment can be compared with another polluted environment. Dr Lester, Chief Medical Officer, states that based on overseas evidence, she does not expect to see any long term evidence of ill health. In light of this statement, long existent rumours of asthma and cancer clusters, lack of baseline data and the large cost of the study, I think that Morwell and Latrobe Valley would be better served by using a control group which is unaffected by coal pollution.

Lorraine Bull

Personal statement and as president of Latrobe Valley Sustainability Group

(1) **The Centre for Air quality and health Research and evaluation (CAR) (www.car-cre.org.au) is NHMRC funded Centre for Research Excellence. It is a collaboration among senior researchers in the fields of epidemiology, toxicology, air physics and chemistry, biostatistics and clinical respiratory medicine based at universities in NSW, Tasmania, Queensland, and Victoria*

(2) Department of Epidemiology and Preventive Medicine, Monash University, Victoria. Australian and New Zealand Journal of Public Health (Impact Factor: 1.64). 09/1998; 22(5):556-61.
DOI:10.1111/j.1467-842X.1998.tb01438.x Source: PubMed

(3) Latrobe Valley Express 28 May 2012