



**Fw: Morwell Mine Fire Submission**

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Subject Morwell Mine Fire Submission

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Content of submission (you can choose multiple): Application and administration of regulatory regimes, Response to fire by Public Health Officials, Response to fire by Other Government Agencies

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Senator-Di-Natale-Hazelwood-fire-submission.pdf



**Dr Richard Di Natale**  
Greens Senator for Victoria

## Office of Senator Richard Di Natale

### Submission to the Hazelwood Mine Fire Inquiry

#### Summary

1. The 2014 Hazelwood Mine Fire was a serious disaster in terms of the suffering inflicted on Victorians who live near the mine. The smoke from the fire had unmistakable and serious immediate impact on the health of residents, particularly those in vulnerable groups including children, the elderly, and those with respiratory illnesses or chronic cardiovascular disease. There is greater uncertainty around the likely long-term impacts of the smoke on residents' health, however evidence suggests some residents will experience adverse health effects over the longer term.
2. In 2013 I initiated a Senate Inquiry into the effects of air quality on health. Over the course of this inquiry our committee heard detailed evidence on the severe impacts on health of bad air quality, in particular the effects of small particles less than 2.5 micrometres in diameter (PM<sub>2.5</sub>). Our inquiry found that monitoring and standards around PM<sub>2.5</sub> are weak or non-existent in Australia despite the strong evidence of serious long-term health risks. Data collected during the fire indicated that extremely high levels of these pollutants in the air that was breathed by the citizens of Morwell.
3. Due to the known and unknown health effects of exposure to high levels of PM<sub>2.5</sub> and other pollutants present in the smoke from the mine fire, the residents of Morwell should have been given greater assistance to relocate outside of the immediate area and that assistance should have been made available sooner. The information they were given throughout the fire but especially in the early days was ambiguous at best and statements were dismissing the health effects of exposure that may not have been supported by the best available scientific evidence.
4. Due to the serious nature of these health risks and the lack of any safe level of exposure<sup>1</sup>, the State should allocate sufficient resources to continue to monitor the health of Morwell residents in the longer term. Residents should also be provided with assistance in cleaning up in the aftermath of the fire as well as dealing with any lingering, shorter-term health complaints caused or exacerbated by the smoke.

#### Senate Inquiry into air quality and health

5. On 28 November 2012 the Senate referred the following matter to the Senate Community Affairs Committee for inquiry and report:

*The impacts on health of air quality in Australia, including:*

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<sup>1</sup> Community Affairs Committee Report, *Impact on health of air quality in Australia*, p. 9.

*(a) particulate matter, its sources and effects;*

*(b) those populations most at risk and the causes that put those populations at risk;*

*(c) the standards, monitoring and regulation of air quality at all levels of government; and*

*(d) any other related matters.*

6. This inquiry was a broad-ranging look at air and health and covered issues such as power generation, the transport of coal, off-road engines and wood heaters.
7. Throughout the course of the inquiry it became clear that airborne particulate matter – small particles that can lodge deep within the lungs – are of the greatest concern. Much evidence was presented to the Committee that drew an incontrovertible link between small particles, 2.5 µm or smaller in diameter, and adverse health effects. Particles of this size are able to penetrate deep within the pulmonary alveoli and lead to a variety of health effects, including:
  - decreased lung function;
  - increased respiratory symptoms;
  - increased chronic obstructive pulmonary disease;
  - increased cardiovascular and cardiopulmonary disease;
  - increased mortality.<sup>2</sup>
8. Chapter 2 of the Committee's report deals with these pollutants and their health effects.
9. The inquiry heard that the mining, transport and combustion of coal are major sources of PM<sub>2.5</sub> pollution. People who live near coal mines are exposed to much higher levels of particulate pollution than the general population. However, the monitoring regime has been largely focused on average exposures across large populations, and so monitoring stations have been sited away from point sources of pollution such as coal mines and coal-fired power stations. This means that quality data on the long-term exposure of residents in disproportionately affected areas is lacking.
10. This evidence has bearing on those affected by the fire. The residents of the Latrobe Valley, particularly those in Morwell who were so disproportionately affected by the Hazelwood mine fire, suffered acute exposure to the pollutants in the smoke from the fire. But this acute exposure occurred in the context of a lifetime of chronic exposure to the dust and smoke from the coal mines and power stations of the area. Given the evidence of the harms of these pollutants, we can surmise that this acute exposure of people near the fire may have had disproportionate health impacts compared to what it would in the general population, and advice should have been tailored accordingly.
11. The relevant recommendations of our committee are attached. They include buffer zones around point sources of pollution such as coal mines and coal-fired power stations.

#### **Events around the fire**

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<sup>2</sup> Committee Report, p. 8.

12. Given the above, I am concerned that during the fire the risks and uncertainties were downplayed, resulting in advice to residents that remaining in Morwell was safe when this could not be stated with certainty.
13. As a former medical practitioner and parent of two small boys, having considered the medical evidence I concluded that if I lived in an area affected by the fire I would have moved my family. This was in contrast to the advice offered by the Victorian government which suggested there would be no long-term harms. I came to this conclusion based on the past exposure of the population, uncertainties about the long-term health effects and the very serious short-term consequences that could prove dangerous for vulnerable people (such as infants, the elderly and those with existing chronic diseases) but also to the broader population.
14. The measured levels of pollutants were high enough to cause extreme concern. There is no enforceable Australian standard for PM<sub>2.5</sub> pollution. There is no "safe" level of exposure to these pollutants.<sup>3</sup> However, suggested benchmarks around 25 µg/m<sup>3</sup> are recommended as targets.<sup>4</sup> During the fire, levels in Morwell were often many times this number, typically in the hundreds.<sup>5</sup> A reading of 1500 - 60 times the recommended target - was recorded.<sup>6</sup>
15. Other pollutants, such as carbon monoxide and polycyclic aromatic hydrocarbons were also present at high levels at various times and contributed to short-term and potentially longer-term health issues.
16. Advice was given that suggested that vulnerable people should leave Morwell, but insufficient assistance was provided. Local residents frequently posed the question to me, "where should I go?" Those without nearby relatives or the resources to find alternative accommodation for themselves and their families had little choice but to stay regardless of the consequences. Although some have argued a full evacuation was warranted, it should have at least been possible to help those who wished to leave voluntarily with more substantive assistance and much earlier than did occur.
17. Apart from the short- and long-term health consequences, the fire resulted in the more prosaic problem of coating the town in thick layers of soot. During and in the aftermath of the fire, residents were faced with a very difficult task of cleaning homes and businesses. I recommend that the Victorian government consider compensation to residents for expenses incurred during the clean-up effort.
18. I recommend that the Victorian government make resources available for long-term monitoring of the health of residents in the affected areas.

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<sup>3</sup> Air pollution and lung cancer incidence in 17 European cohorts: prospective analyses from the European Study of Cohorts for Air Pollution Effects (ESCAPE), *The Lancet Oncology* - 1 August 2013

<sup>4</sup> Australian Government Air Quality Standards; European Commission air quality standards.

<sup>5</sup> <http://www.epa.vic.gov.au/our-work/monitoring-the-environment/air-quality-bulletins/hourly-air-quality-data-table>

<sup>6</sup> <http://www.latrobevalleyexpress.com.au/story/2115399/hold-your-breath/>

## **Attachment 1: Recommendations of the inquiry into the impacts on health of air quality in Australia**

### **Recommendation 1**

The committee recommends that the Australian Government's representative to the Standing Council on Environment and Water support the adoption of the 23 recommendations of the Ambient Air Quality NEPM Review.

### **Recommendation 2**

The committee recommends that the Australian Government advocate, through the appropriate Council of Australian Governments process, the inclusion of mechanisms to collect additional data on ultrafine particles.

### **Recommendation 3**

The committee recommends that buffer zones be used to protect populated areas from large point-source emitters.

### **Recommendation 4**

The committee recommends that pollution monitoring should accurately capture population exposure for communities and homes proximate to pollution point sources.

### **Recommendation 5**

The committee recommends that providing monitoring and real-time data of air quality be a condition of environmental approvals issued by the Australian Government unless an operator can demonstrate that air pollution created by the development will not impact upon human health.

### **Recommendation 6**

The committee recommends that states and territories require industry to implement covers on all coal wagon fleets.

### **Recommendation 7**

The committee recommends that the Commonwealth develop and implement a process for assessing cumulative impacts of coal mine developments that take into account other mines in the region and their impact on resident health.

### **Recommendation 8**

The committee recommends that health impact assessments be required as part of the assessment process for all new developments.