

Har Salbe

Thank the Planning and Assessment Commission for the opportunity to speak today on the Air Quality Assessment part of the Invincible mine EIS

Acknowledge that Coal communities have provided:

- the electricity that has met my personal needs for six decades
- that has allowed technological and medical advances.

The world may be moving on but coal communities have a right to be proud of their contributions

About me.

- I spent a career hydrological assessment for government departments.
- I've modelled the Sydney Water, Murray River and Murrumbidgee River supply system,
- Enough parallels with air quality assessment to allow me to talk meaningfully today
- Family members suffer from respiratory diseases and I've experienced the joys of emergency trips to hospitals. I care about air quality.

On to air quality impacts assessment

- There's a document I have written that provides more detail than I can provide today.

How does a coal mining affect air quality?

- Open coal mines operations (blowing up, transportation etc) emit dust particles that spread into neighbouring areas

So what?

- the smallest of the dust particles can penetrate and lodge deep in the lungs
 - can cause cardiovascular and respiratory disease, and cancers.

What's the response?

According to the world health organisation

- There's no safe of small dust particles
- WHO has recommended, and NSW has more or less followed, a set of set of pragmatic maximum concentrations limits for small dust particles
- The Invincible EIS needs to show that the combined normal + mine caused dust will not exceed these limits.

But the non-pragmatic reality is as a PAE Holmes paper prepared for the Australian Environment Protection Council (set up by government) stated :

- *Is that any increase in dust concentration, even if criteria limits are not exceeded, has detrimental health effects on humans.*
- *The mine if it goes ahead will have some bad health impacts.*
- *Animals in the environment will be affected too but the EIS doesn't need to worry about that.*

Analysis

The EIS used a model to work where out dust emissions will spread to

- Called the CALPUFF model
- Was developed in the USA
- The US environmental protection agency knows all about it.
- I emailed them and a lot of what I wrote is based on what they told me.

Unlike the hydrology modelling there is no reality checking of CALPUFF modelling

- CALPUFF isn't calibrated and validated against real historical observations.
- Because it isn't reality checked the US EPA has mandatory guidelines in how to use CALPUFF
- NSW doesn't seem to have the same guidelines and the EIS reporting isn't clear as to whether the methods of US EPA are followed
- So, for me, as an experienced modeller, the EIS air quality assessment has questionable credibility.
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- The other problem with the EIS air quality assessment is how it established normal dust levels, that is the dust levels which are there without any mining. The higher the normal level the cleaner the mine needs to so that total dust limits are not exceeded.
- I've explained that in my document why I think the normal dust levels were underestimated and therefore why the mine needs to be cleaner

So where does leave us.

- An Air quality assessment that's got credibility problems.
- Even if the modelling was perfectly credible
 - anyone with knowledge of CALPUFF and modelling generally knows predictions will always have a degree of uncertainty.

My take on the modelling uncertainty is that the mine extension proponent, if successful,

- Should do the right for the local community and
 - AT LEAST fund monitoring of dust levels around Cullen Bullen (\$15000, a pittance) for equipment that will allow internet accessible dust levels at any time.
 - If levels are unhealthy and its monitored then something can be done about it
 - Data generated can help improve CALPUFF for use in other areas.

Of course, the mine may not be approved. My personal view is that it shouldn't but that's not my call