

Response to Central Queensland Coal Project (Styx) Supplementary EIS

June 2018



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Healthy planet, **healthy people.**

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Healthy planet, healthy people

Dear Director-General

Response to Central Queensland Coal Project (Styx) Supplementary EIS.

We request that the Department of Environment and Science (DES) use its power under s.62 to publicly invite comment on the SEIS.

We make the request because there are significant health and environment issues raised in our response to the EIS which have not been addressed. Our submission is at <https://www.dea.org.au/wp-content/uploads/2017/12/Submission-to-the-EIS-Central-Queensland-Coal-Project-Styx-12-17.pdf> and is No. 14 in the Submissions Register.

Human health and the environment are indivisible; we make this point for all harms to the environment potentially affect human health to some degree. In the EIA and now in the SEIS the two issues which clearly have significant health consequences are blasting and water and we address these issues first.

Blasting is an immediate safety and health issue which we suggest should not be approved by the Queensland government now that our evidence of inadequacies in the EIS and SEIS has been presented (below) or legal responsibility will be incurred.

Public safety and blast plumes

In the DEA submission on the EIS it is noted that the mine is planned to straddle the Bruce Highway, with open cut pits on both sides of the road. Open cut mining will include blasting with ANFO explosives, with the attendant risk of production of blast plumes containing highly toxic nitrogen dioxide when combustion is incomplete. Perfect blast management results in no nitrogen dioxide, but in practice only one third of blast plumes achieve this, and many blasts result in high levels of toxic gas. Exposure to this gas for even a few minutes can cause severe respiratory irritation, pulmonary oedema, and death. There have been multiple occasions when mine workers have been hospitalised after exposure to these plumes, with exposure up to 6km from a blast site in QLD, and at 3km from a blast site in the Hunter Valley. In the Hunter Valley members of the public have suffered toxicity after driving through blast plumes on public roads outside the mandatory road closure area.

The SEIS responds to this risk by estimating NO₂ exposure by an inappropriate method. This approach does not fulfil the requirements of the terms of reference. The method quoted is that for the National Pollutant Inventory which is concerned with total annual output. What matters in this situation is the peak output from a poorly conducted blast, which can be thousands of times higher than the average output. Modelled maximum NO₂ concentration over 1-hour at a Bruce Highway receptor is stated as 7.43 µg/m³, against a reference criterion of 250 µg/m³. This analysis does not match the behaviour of blast plumes. It is not the 1-hour exposure but the 5-minute exposure to high levels that causes toxicity.

DEA noted that blast plumes should disperse, but sometimes they don't. In this situation it travels as a dense plume, not following the usual pattern of dispersion. An analogy is a smoke ring that persists in a patch of air rather than dispersing as most smoke does. This atmospheric behaviour is not modelled in Calpuff. With the risk of non-dispersing blast plumes, a 500m setback for public safety is inadequate.

The SEIS proposed remedy is to conduct no blasting within 500m of the road. There are 2 problems with this. Firstly, blast plumes frequently travel further than this before dispersing. Secondly, the mine pit is shown as reaching within 100m of the road. There is no explanation of how the 400m of open cut mining in this zone will be achieved without explosives, so we view this promise with scepticism.

There remains a high risk to people travelling on the Bruce Highway during mining operations, and a lower risk to the 30 residents of Ogmoo 6.8km away, which is at the limit of previously observed risk from blast plumes. This is a real risk to the public from the proposed Styx mine even after the changes in the SEIS. This alone is a sufficient public risk to reject the proposal.

Surface water

Surface water run-off is dealt with in the SEIS Executive Summary (p17).

Quote: High intensity rainfall events should be expected to occur over the course of mine-life and measures to deal with such events might include controlled discharge to take advantage of increased available dilution.

The increased available dilution means that mine pollutants would be carried far and wide into the GBRWHA which is only 8km downstream. This relies on the false notion that if mine waste is mixed with sufficiently large amount of water it ceases to be toxic.

The waste rock has been examined in Chapter 8:

Quote: 8.13 Without appropriate management there is some potential for leachate from extracted waste rock and fine rejects to enter local waterways and degrade water quality. Although the waste rock is expected to have a low capacity to generate acidity it does have moderate saline drainage potential and the KLC results indicated that leachate may contain elevated concentrations of dissolved As, Mo, Se and V when compared to potential water quality monitoring criteria. The leachate derived from the kinetic leach study generally showed that there is an initial flush of soluble metals / metalloids and salts which decreased after the first two to three flushes. This initial flush is likely related to the particle size; the fine materials with smaller particle size have a larger surface area for chemical reactions to occur and thus tend to yield higher leached metals / metalloids and salts concentrations.

The presence of high levels of Arsenic, Molybdenum, Selenium and Vanadium during first flush are noted, however, the decrease over time is not reassuring as to the extent of environmental pollution as in a continuous mining operation there will always be new overburden and rejects being created and stacked.

The location of the mine in a cyclone prone region and in close proximity to the GBRWHA means that we do not accept that it can be operated without environmental damage to the reef.

SEIS response to other issues raised by DEA

Page 21,

14.1 "no update to the EIS is proposed"

As preamble to these health issues we addressed the role of Health Impact Assessment. We regard the above response as unsatisfactory. It raises the issue as to whether HIA has been carried out, by whom and what was the advice received. We are dealing with human lives and harm which have been of distressing frequency in Queensland with unconventional gas, the Acland Judicial judgement, resurgence of black lung disease and more. These issues demand transparency.

Page 22,

14.2 and 14.3 "no update to the EIS is proposed"

We regard the response as inadequate; The EIS and the HIA should provide all information to allow the government to make a balanced judgement, on the basis of positive and negative impacts, if the project is in the public interest. Clearly potential impacts on the Barrier Reef are relevant in relation to water discharge and progressive climate change and should be acknowledged under cumulative impacts (loss of tourism jobs, sea fish etc).

14.4

The response is unsatisfactory and is covered by DEA above in the section 'Surface water'

14.5 "outside the EIS scope"

This response is unsatisfactory for to provide a thorough EIS the best available expertise should be engaged. When complex water resources are being investigated the expertise of the nation's expert water body, the IESC, would be of great value. In view of the importance of water in a drying climate accompanied by extreme weather events, it would be appropriate for the SEIS to indicate this need to government

14.6-14.9

The responses in relation to surface water are unsatisfactory and are discussed above.

14.10

The response infers that the economic value of the project is not considered. This is an essential part of the EIS process. When environmental accounting is used the project might have no value.

14.11. 14.12 "outside the EIS scope" the cross references are not relevant

This is an unacceptable response for it is relevant to water quality and effect on the Barrier reef and therefore economic assessment.

14.14-13-16

The responses are inadequate. Yes, Scope 3 emissions are the responsibility of the country that burns them but the resultant change in climate impacts every country and region including Queensland. The adaptation measures necessary must take into account the expected trajectory of climate change during the life of the project.

14.17 Satisfactory.

14.18-14.20 Addressed by DEA under public safety.

14.21 In our initial submission we identified a problem with the accommodation camp: *The accommodation camp that may be built for staff is in close proximity to the mine. It is claimed that this is not a sensitive receptor, but it is a residential area and people will be exposed so this is an unreasonable claim. The appropriate air quality standards for the camp are the ambient air quality standards, not the occupational exposure standards which are based on an 8 hour shift length. Details of the camp are entirely lacking, for instance the camp residents may include children who are more sensitive to harm from respiratory toxins. There is likely to be respiratory harm to people living at the camp.*

The response in the SEIS is vague. Discussions have commenced with the Marlborough caravan park, which may expand to provide overflow accommodation. Does this mean that there will no

longer be accommodation provided at the mine? That would be a satisfactory solution for health protection, but nowhere is it stated that there will not be accommodation at the mine.

14.23- 14.28 Our concerns over the input –output economic approach have not been addressed, we refer to a previous submission on Acland with Economists at Large <https://www.dea.org.au/wp-content/uploads/2013/02/New-Acland-Stage-3-Submission-02-13.pdf> which recommends cost benefit analysis as the appropriate method

Conclusion

The supplementary EIS does not satisfactorily address the concerns expressed in our submission to the EIS and the project is not approvable as it stands.

Doctors for the Environment Australia (DEA) is an independent, self-funded, non-government organisation of medical doctors in all Australian States and Territories. Our members work across all specialties in community, hospital and private practices. We work to minimise public health impacts and address the diseases local, national and global caused by damage to our natural environment.



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