SECOND SUPPLEMENTARY SUBMISSION FROM D D WHITE TO THE INDEPENDENT PLANNING COMMISSION HEARING INTO THE HUME COAL PROJECT (SSD 7172)

Subsequent to my presentation at the IPC Hearing in Moss Vale on the 26th of February 2019 and my supplementary submission dated 6th March 2019, an EIS for the Tahmoor Coking Coal Project (SSD 17_8445) dated 21 December 2018 has come to my attention. One of the key components of the Tahmoor EIS is a detailed evaluation of options for the disposal of Coal Prep Plant (CPP) rejects done by the highly-respected international engineering firm Sinclair Knight Mertz (SKM).

This study started with a preliminary assessment of 9 possible options for disposal of the Tahmoor rejects using a wide variety of economic, operational, environmental and safety criteria. This preliminary assessment looked at both surface and underground placement in dry form, in a wet fill slurry and as a low moisture content (20% w/w) paste. As result of this assessment, the options were whittled down to just two, which were then subjected to a much more rigorous evaluation:-

- Surface disposal in an addition to the existing reject emplacement area (REA), and
- Underground disposal as a paste material into active goafs via a trailing pipe

The other 7 options were eliminated on the basis of unacceptable environmental impacts, unrealistically high capital and operating costs, operational complexity and/or unacceptable safety risks. These are outlined in more detail in Section 6 of Appendix U to the EIS (https://majorprojects.accelo.com/public/b680fbc7dca4c7804e92e73b388ca40d/23.%20Tahmoor%20South%20Coal_EIS_App%20U_Rejects%20Disposal.pdf).

Many of the conclusions in this highly professional and comprehensive options study are directly relevant to the Hume Coal Project. These include:-

1. SKM concluded that it was unrealistic to expect the placement of 100% of the rejects back underground on a continuous basis due to the low operational availability of fill preparation plants and physical constraints imposed by underground mining activities. Therefore, they contended that at least 30% of the rejects would still have to be pumped to the existing surface REA – what they call a "co-disposal" option.

2. SKM selected a paste fill approach rather than a slurry fill due to the much high water volumes required by slurry, much higher pipe wear than for paste, significant risk of pipe clogging and the higher underground emplacement volumes required to house the same quantity of reject material. It is unclear to me from any of Hume Coal's presentations whether they actually propose to use a slurry or a paste, and their estimated 60% w/w of solids falls between the specifications used by SKM to differentiate between the two types (max 50% w/w for slurry and around 80% w/w for paste).
3. SKM was unwilling or unable to propose a final design for the rejects disposal system until significant test work had been done on a range of likely CPP reject materials to establish the

required rheology for safe and effective pipeline transport and placement of all of the material. This test work would also include laboratory and pilot scale loop tests to confirm the practicality of any approach. Again I see no evidence of any comprehensive test work having been done by Hume Coal.

4. SKM also emphasised a number of issues regarding water management – including the large quantities of water required to transport the rejects, and the fact that much of this water would be extruded from the fill material as it is placed and would need a complex pump and sump system to handle it. I have seen no evidence of any such analysis in the Hume Coal documentation.

All in all, I found this study to have the depth and breadth I would expect for such a critical element of the mine design of a major mining project. Unfortunately I can't say the same for the Hume Coal documentation on the rejects placement system. The SKM study confirms my belief that –

The 100% underground placement of CPP rejects proposed by Hume Coal will not work, and the need for a surface tailings facility (REA in the SKM terminology) is inevitable. Given the location of the project, such an outcome is completely unacceptable and should be sufficient reason alone for the Commissioners to stop this project going ahead.

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