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Att: **Sara Wilson** 20 June 2013
NSW Department Planning

Submission – Moolarben Coal Operations Stage 1 Modification 9

This is an objection to the MCO Stage 1: Modification 9.

The Moolarben Coal Operations (MCO) proposed **Stage 1: Modification 9** represents a significant expansion (*not a minor adjustment*) of the open cut footprint approved as part of Moolarben Coal Mine Stage 1 (2007). Since the 2007 approval there have been eight other modifications plus a Stage 2 development application that would potentially double the size and impacts of the Moolarben Coal Mine. MCM Stage 1 had many objectors and went before an independent expert panel for assessment, approving this expansion with yet more environmental and social impacts will cause the community to lose confidence in the planning process.

The MCO latest proposed expansion involves a 25% increase in the Stage 1 Open-cut Mine footprint, joining and extending Open Cuts 1 & 2 (178 hectares increase in pit size to 886 ha). This is not a minor or insignificant proposal as claimed by the proponents. It includes the:

1. Extensive removal of sandstone ridge-lines and native remnant vegetation above the Moolarben valley floor - 100m, 60m and 30m (east-west and north-south).
2. Clearing of an additional 171.4 hectares of native vegetation including 17.2 ha of Ecological Endangered Communities listed under the NSW Threatened Species Act (16.5 ha critically endangered listed federally under the EPBC)
3. Extension of Open Cut 2 pit within 100m of Moolarben Creek (headwaters Goulburn River).
4. Overburden emplacement on edge of Moolarben Creek (Year 16)
5. An extensive mine truck haulage road (+13 kms) with associated dust and noise impacts and limits on the progressive rehabilitation and clean water management and diversion.
6. Additional interception of surface and groundwater and use for dust suppression and coal treatment.
7. Water Management Strategy (WMS) that depends on unlimited overflow from overburden sediment and mine water dams if rainfall exceeds 44mm over 5 days.

IMPACTS & ISSUES:

1. MCO has a poor record in the design and implementation of the Stage 1 Water Management Plan (WMP) that has resulted in a number of breaches for uncontrolled offsite sediment discharges into the Goulburn River system and the suspension of EPL water quality limits on mine discharges in 2010 following a period of high rainfall.
2. The extensive surface disturbance, open cut pits and overburden emplacement in close proximity to Moolarben Creek represents a significant threat to downstream water quality from sediment and salinity discharge and seepage into the headwaters of the Goulburn River. Any sediment or mine water dam overflows or offsite discharges eventually flow into, and will impact on, the downstream ecology and water quality of the Goulburn River.

3. All three ridge-line excavations are visible from multiple points in the landscape and face the well-populated rural community of Cooks Gap and Ridge Road.
4. Ridge Road and Cooks Gap community will experience increased noise, dust and visual pollution. The suggestion that 'overburden emplacement' is used to create a visual barrier and MCO "*investigates the feasibility of targeted vegetation planting to screen affected properties along Ridge Road*" is an ineffectual 'band aid' response.
5. The restoration of a stable catchment depends on successful and progressive rehabilitation and revegetation of the disturbed footprint, however many of the open cut pits remain open for the life of the mine to allow for coal haulage and water storage for mine operations.
6. The reliance on extensive coal truck haulage roads should not be permitted rather an elevated conveyor belt system should be the preferred mode of coal transport to the operations area. This would significantly reduce the necessity for >13 kilometres of haulage roads with associated noise and dust impacts including high water demand for dust suppression. It would also allow for a more efficient clean water surface diversion management structures (ie removes haulage road obstacle) and remove unacceptable delays in rehabilitation of the central pit area.
7. The economic justification for this expansion is highly questionable. The latest climate commission report warns that 80 per cent of global fossil fuel reserves will have to stay in the ground to avoid exceeding a 2^{o} rise in global temperatures and dangerous climate change. This has obvious implications for the economic predictions and future investment in the coal industry that governments must heed.

WATER MANAGEMENT

Due to time limitations the following is not a comprehensive review of the MCO proposed Water Management Plan (WMP) for Modification 9 but an attempt to highlight some potential risks and concerns to water quality and ecology in the Goulburn River considering MCO prior record. The WMP is under designed for the scale of open cut operations, total surface disturbance and rainfall regime. The proposed plan for water management:

1. Is a high risk water management strategy dependent on a series of sediment and mine water storage dams maintained by a complicated pumping regime with little room for human error or climatic extremes (p.71 WRM).
2. Depends on the suspension of pollution condition limits (p.21 App. I) should rainfall exceed 44 mm over 5 consecutive days. This would permit uncontrolled overflows from MCO Sediment Dams and Mine Water dams (and indirectly Open cut water stored in these dams) during moderate to heavy rainfall events that occur on average 3-4 times per year[1]. *The suspension of water pollution limits is in fact an admission by MCO they are unable to manage the volume of onsite water runoff for a moderate-high rain event.*
3. Uses prescriptive parameters that do not reflect natural water quality fluctuations in the river system and receiving waters rather than outcomes.
4. The purchase of water licenses to offset groundwater loss from Moolarben creek cannot compensate base flow loss when a CEASE TO PUMP restriction would have applied to this license i.e. critically low stream flows during extended dry periods (p.50 AGE App. I).
5. Joining of Open Cuts 1 & 2 severely limits opportunities for clean water diversion and water management around the disturbed mine site – increasing the interception and loss of catchment runoff
6. Unacceptable cumulative reduction in catchment runoff and groundwater recharge that support stream and base flows.

[1] BOM data - 5 days falls totally >44mm for Ulan Station 62036 & Gulgong Station 62013 - 1993-2013

7. Significant water demand of between 1500-2380 ML/year required for dust suppression and coal preparation
8. The need for a substantial increase in the EPL volume of water discharged offsite from 800 KL/annum to 10 ML/annum is symbolic of the inadequate predictions that have plagued the Stage 1 water management..
9. Reliance that flooding in Moolarben Creek will not exceed a one in a 100 year ARI flood event over the next 21 years as mapped in the 2006 Stage 1 report is dubious.

Groundwater Impacts

There is a substantial risk that the extension and location of Open Cut 2 (depth 20m) within 100 m of Moolarben Creek and 170m from 'known' alluviums may breach the NSW Aquifer Interference Policy which require there be no more than a 2m drawdown in groundwater levels (whether extracted directly for consumptive purposes or taken incidentally) or the long term average salinity does not increase by more than 1% per activity (Fig 4.1 p.28 & E-E' p.31 AGE). There also appears to be no reference to the potential impact on remnant Forest Red Gums (*Eucalyptus tereticornis)* GDE associated with the alluvial flats of the Moolarben Valley.

Water Monitoring Issues

MCO has a poor record in the design and implementation of their Stage 1 WMP and offsite sediment control due largely to inadequate water planning and errors in predictions. To protect the downstream river health and water quality of the Goulburn River at The Drip and National Park requires outcome based conditions and regulations supported by real-time monitoring and effective penalties. The Goulburn River at the Drip Picnic Area and downstream is a natural 'high value' stream under direct pressure from upstream mining activities (RiverStyles- HCRCMA). The natural ecological processes and resilience of this system that protect and maintain instream health are at risk of collapse if pushed past the tipping point by mining impacts in the upper catchment. Contamination of the sandy stream bed by fine clay sediments, a doubling of background salinity levels (900 µS/cm discharge limit), increasing algae blooms and declining aquatic biodiversity are clear warning signs the system is under pressure. It is not acceptable to merely monitor and document the decline.

The MCO review of baseline water quality monitoring data for receiving water concludes upstream and downstream water quality parameters were '*fairly consistent'*, and turbidity '*generally exceeds ANZEEC trigger values'* at most sites (P. 16/17 App I.WRM). These conclusions were based on the simplistic analysis of maximum, minimum and average data and as such misrepresent upstream and downstream river water quality. A representative range of percentiles is a more meaningful and comparable guide to determine baseline conditions in this dynamic stream system that can be subject to external point source discharges that skew the data range. The downstream turbidity of river flow is normally <10 NTU (+90 percentile) well within the ANZEEC guidelines for upland rivers. The maximum EC of 1680 µS/cm and 1560 µS/cm apparently recorded at The Drip (SW01) and Drip Picnic Area (SW02) respectively are examples of a spurious reading due to a point source mine water discharge[2] and should be identified as such (Appendix I, p.18 Table 2.6).

MCO monitoring methodology of sediment dam runoff and stream sites when there a rain event exceeds 30mm over 24 hours is essentially flawed. A pulse of storm water after such a rain event would travel more than 17 kms downstream in 24 hours (using a conservative speed of 0.2m/s - average centre channel flow rate of the Goulburn River is 0.35 m/s). Sampling needs to occur within 12 hours of the rain event - preferably using continuous hourly loggers. This would allow all rainfall events that produce runoff and stream flow to be monitored including intense summer storms where even 15 mm rain can produce significant runoff (particularly if it falls within 2 hours or on saturated soils).

[2] In 2006 Ulan Coal Mine water discharge temporarily >2000 µS/cm, high readings may also be due to sampling error or a first flush pulse after extended dry period.

Water Management recommendations:

1. The scale of surface disturbance is reduced and clean water diversion drains installed where-ever feasible to ensure realistic and effective surface water management.
2. Installation of continuous loggers (hourly) for monitoring of water quality at discharge sites, dam overflow points and upstream and downstream receiving waters to ensure water quality parameters are recorded within 10 hours of a rain event:
   >25mm over 24 hours
   >15mm over 2 hour period
3. Environmental regulations and conditions for protecting downstream water quality and instream ecology are outcome based requiring all offsite discharges to reflect the 'real-time' quality of receiving waters (e.g. turbidity, salinity and pH).
4. Rehabilitated land is returned to clean water catchment only when over 70% perennial ground cover has been achieved (minimum 3 years)
5. Effective and prompt deterrent penalties are included in the regulations

ECOLOGICAL IMPACTS

The clearing of an additional 172 hectares of native forest is a significant loss adding to the cumulative loss of 868 hectares plus potentially Stage 2 Open cut 4. It is encouraging that biodiversity offset properties have now been identified in the Ulan Wollar catchment area along with a commitment to long term protection under a conservation covenant and/or transfer to the Environment Minister for NPWS, to ensure these are not mined in the future. However to provide tangible compensation for the net loss in habitat and EEC communities from the proposed clearing there must also be an equal net gain in habitat condition. While Old Bobadeen Station provides an excellent opportunity for restoration of degraded riparian biodiversity and grassy white box woodlands, actually achieving these gains on highly modified pasture are extremely problematic requiring long term commitment and expertise.

In conclusion the economic imperatives and questionable environmental justifications for this development are far outweighed by the climatic, economic and social consequences and environmental damage from proceeding, particularly the threat to instream ecology and health of the Goulburn catchment.

Yours Sincerely,

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