

**MINING, EXPLORATION & GEOSCIENCE
ADVICE RESPONSE**

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Dear Clay

Project: Moolarben Coal Complex – Underground Stage 2 – Modification 4
Stage: Modification Report
Development Application: 08_0135

I refer to Department of Planning, Industry & Environment correspondence dated 2 December 2021 inviting the Department of Regional NSW – Mining, Exploration & Geoscience (MEG) to provide comments on the Moolarben Coal Complex – Underground Stage 2 – Modification 4 (the Modification). The modification is submitted by Moolarben Coal Operations Pty Ltd (the Proponent), a wholly owned subsidiary of Yancoal Australia Limited.

Executive summary

The Modification is proposed to allow for the extraction of additional coal within existing mining tenements adjacent to approved operations at the Moolarben Coal Complex.

The Moolarben Coal Complex comprises of four approved open cut mining areas (OC1 to OC4) and three approved underground mining areas (UG1, UG2 and UG4). This Modification is seeking to extend and slightly augment the longwall mine layout in UG2. No mining or development has occurred in UG2 to date, however, exploration activities have continued within the Mining Lease (ML) and identified a requirement to extend the approved mine layout to avoid a number of geological features. Development of UG2 is expected to commence in 2023, the Modification will extend the life of UG2 by 12 months, producing an extra 4.5 Million tonnes (Mt).

Table 1: MEG determination estimate of total royalties

Parameter	\$m (2021 dollars)
Total Royalties received	\$38 million
Net Present Value (NPV) royalties (7 percent discount rate real)	\$23 million
Annual estimated royalties (average)	\$19 million (approximate)

In addition, the Modification will generate:

- on average 250 full-time equivalent (FTE) continuing jobs during operations in 2028 and 2029.
- a value of around \$500 million in current dollars, with the NPV of this revenue stream at around \$300 million
- capital expenditure of about \$28 million.

The Moolarben Coal Complex UG2 Mod 4 extension is considered to be an efficient use of resources. If the Modification does not proceed the economic and social benefits outlined above will not be realised.

Project strategic considerations

Economic benefits of the project

All coal from the Modification will be sold on the export thermal coal market. The total value of this coal is estimated to be around \$500 million in current dollars with a net present value of around \$300 million using a real discount rate of 7 percent. The export income would contribute to the around \$14.5 billion of coal exports from NSW in 2020/21, where total coal value was around 30 percent of total merchandised exports.

A key economic benefit of the Modification is that, if approved, it would extend the life of the current Moolarben underground mine by 12 months. The additional production from the Modification would be spread over two years, with approximately 2.25 Mt in both 2028 and 2029. Total capital expenditure for the Modification would be around A\$28 million. There would be no additional jobs as a result of the Modification, though it would support the current 250 operational jobs at the mine site for another year.

The Project would utilise existing major equipment at the mine facility such as the longwall and the existing Moolarben coal handling facilities, rail loop and other major surface facilities. Modifications to existing operations usually entails much lower capital expenditure than new projects as is the case with this Modification.

Royalty return to the state

Royalty calculation

The Modification is a proposed underground mine and as such a royalty rate of 7.2% of net disposal value is applicable. Net disposal value is the price received per tonne minus any allowable deductions. The main allowable deductions include

- Coal beneficiation: either \$3.50 per tonne for a full washing cycle, or \$2.00 per tonne for a simple washing process, or \$0.50 per tonne for coal that is crushed and screened
- Administration levies of \$1.00 per tonne

As all product coal from the Modification will be only crushed and screened, a deduction of \$0.50 per tonne from the value of coal produced applies. Hence total allowable deductions for royalty for the Project is \$1.50 per tonne.

Assumptions

All coal from the Modification is expected to be sold into the export thermal coal market.

MEG has used an average price of around A\$120 per tonne for the export thermal coal for years 2028 and 2029 (IHS Markit medium term export thermal coal prices). A review of coal quality data by MEG has determined that this is achievable, however, coal price forecasts remain uncertain.

If the Modification is approved, around 4.5 Mt of additional product coal is estimated to be economically mined from the Modification area during 2028 and 2029.

Resource Assessment

Background

Moolarben Coal Complex is located in the Western Coalfields of NSW, 40 kilometres north of Mudgee, in the Mid-Western Regional Local Government Area (LGA) of New South Wales.

The Moolarben Coal Complex obtained development consent in 2007 and commenced mining activities in 2010. At present mining has occurred in all the open cuts (OC1, OC2, OC3 & OC4) and UG1 and development has commenced in UG4. Development of UG2 is expected to commence in 2023.

The site has approval until 31 Dec 2038, with approval to allow for the extraction of up to 12 million tonnes per annum (Mtpa) from the open cut mining operations and 8 Mtpa from the underground mining operations.

The main elements proposed for the Modification include the following:

- optimisation of the approved UG2 layout (including the extension of two approved longwall panels)
- increased UG2 extraction height from 3.0 metres (m) to 3.5m
- revised UG2 mining sequence
- increased total UG2 run-of-mine (ROM) coal production from 9.4 Mt to 13.9 Mt
- construct and operate a remote services infrastructure area within the approved OC4 disturbance footprint to support UG2 operations
- develop an additional non-subsiding gate road along the southern boundary of the UG1 mining area to assist with ventilation in UG2
- a small reduction in the approved OC4 extent to accommodate the optimised UG2 layout

No other changes to the approved Moolarben Coal Complex (including disturbance footprint) would be required for the Modification.

Size and quality of the resource

The main target at Moolarben UG2 is the Ulan Seam this seam consists of several plies which reach about 12m in thickness. UG2 plans to mine the DTP & DWS plies of the Ulan seam which are about 3.5m thick. Strata generally maintains a north-westerly strike and dip of approximately one to two degrees to the north east.

MEG has verified that with this Modification, UG2 will provide approximately 13.9 Mt of ROM coal. This coal is not washed and is sold as a medium ash thermal coal to current markets. The extraction of UG2 is planned to begin in 2024 and planned to be completed in 2030.

MEG have received a copy of the December 2020 coal resource and reserve estimation for the Project. This was done in accordance with the Australasian Code for Reporting Exploration results, Mineral Resources and Ore Reserves (the JORC Code). The JORC Code is an industry-standard professional code of practice that sets minimum standards for public reporting of mineral exploration results, mineral resources and ore reserves.

Coal Resources for the full thickness of the Ulan Seam within the UG2 area total 51.5 Mt.

Resource recovery

The Proponent has re-assessed options for the extraction of LW201 to 205 (formally LW10-13) and determined that the Modification is appropriate for the extraction of these coal resources. Many factors constrain a mine plan and extraction methodology and therefore the resource recovery. These include geological factors, environmental constraints, and commercial viability.

The increased mine height and extension of Longwalls 201 and 202 are expected to increase the ROM tonnage by 4.5 Mt from 9.4 Mt to 13.9Mt.

JORC code considerations

The Proponent has completed resource and reserve estimations for the Modification in accordance with the Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves (the JORC code) produced by the Australasian Joint Ore Reserves Committee. The JORC Code is an industry-standard professional code of practice that sets minimum standards for public reporting of mineral exploration results, mineral resources and ore reserves. Reserves are the economically mineable portion of a resource. A JORC compliant reserves report assists in independently assessing the commercial viability of the Modification and the proposed mining method.

In view of the opportunities and constraints outlined in the Proponent's Modification and based on the information currently available, MEG considers that the Project is consistent with the objects of the *Mining Act 1992*. In addition, in relation to clause 15 of the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007, the Proposal represents an efficient development and utilisation of minerals resources which will foster significant social and economic benefits.

MEG is satisfied that, should the operational outcomes be achieved, the proposed mine design and mining method submissions adequately recover resources and will provide an appropriate return to the state.

Application of section 380AA of the Mining Act 1992 – restrictions on planning applications for coal mining and titles required to undertake mining

Coal is a prescribed mineral under the Act and the Proponent is required to hold appropriate mining titles from MEG to undertake mining.

Section 380AA states:

(1) An application for development consent, or for the modification of a development consent, to mine for coal cannot be made or determined unless (at the time it is made or determined) the applicant is the holder of an authority that is in force in respect of coal and the land where mining for coal is proposed to be carried out, or the applicant has the written consent of the holder of such an authority to make the application.

(2) For that purpose, an authority in respect of coal need not be in force in respect of the whole of the land to which the application for development consent relates but must be in force for the land where mining for coal is proposed.

Based on current title information MEG advises that the Proponent holds the appropriate titles as required for planning applications for coal as relating to the Modification and satisfies the requirements of section 380AA.

The requirement for a mining authority and royalty liability

The requirement for a mining lease

As coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold an appropriate mining title(s) from MEG to mine the mineral.

MEG notes that the appropriate mining authority, Mining Lease 1715 (Act 1992), is currently held to undertake extraction within the Modification area.

Royalty Liability

The holder of a mining lease is also liable to pay a royalty for both publicly and privately-owned minerals (refer to section 282-285 of the Act).

Biodiversity offset assessment

MEG requests that the Proponent consider potential resource sterilisation should any future biodiversity offset areas be considered. The Proponent must consult with MEG and any holders of existing mining or exploration authorities that could be potentially affected by the proposed creation of any such biodiversity offsets, prior to creation occurring. This will ensure there is no consequent reduction in access to prospective land for mineral exploration or potential for the sterilisation of mineral and extractive resources.

Summary of review

MEG considers that should the Modification be approved; efficient and optimised resource outcomes can be achieved.

MEG requests that it be provided with an opportunity to review the draft conditions of approval before finalisation and any granting of development consent.

For enquiries on this matter, please contact Katherine Courtney, Project Officer, Industry Advisory & Mining Concierge – Industry Development on 02 4063 6966 or mining.concierge@regional.nsw.gov.au.

Yours sincerely



Chris Celovic
Director Industry Development
Department of Regional NSW – Mining, Exploration & Geoscience
15 December 2021