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## Submission: Mt Arthur Coal MOD 2 (Pathway to 2030)

Attn:

Date: 19-November-2023

Ref: ADG202311MAC01

**Major Projects**  
**NSW Department of Planning, Industry and Environment**  
GPO Box 39, Sydney NSW 2001  
320 Pitt St, Sydney 2000  
Phone: 1300 305 695

Dear Sir/Madam

Re: Mt Arthur Coal MOD 2 (Pathway to 2030) [SUB-64760726. MP09\_0062-Mod-2]

Submission by David Gray, with a background as a Mining Engineer having a long-standing interest in pumped hydro from both a final void mine planning perspective and more generally as an enabler to decarbonising the energy sector (ref: Snowy Hydro 2.0 Submission, Warragamba Submission, <https://www.roctimisation.com.au/climate-change-position.php>).

I Support the project based on:

The project being a pathway to planned closure by 2030, providing a unique final void Pumped Hydro opportunity:

- Planning – Provides an opportunity to plan the final landform and void(s) to better suit a Pumped Hydro post mining land-use. Provides an opportunity to integrate design, planning, and gain approvals for Pumped Hydro, while optimising the mine closure plan to achieve a fit for purpose Pumped Hydro design
- Timing – The need for Pumped Hydro (high-capacity storage) is immediate, to underpin the transition to renewables, matching the timing of early planned closure. Integrating Pumped Hydro construction as part of the mining operation can bring forward the energy storage capacity
- Scale – Being among the largest open-pit mines in NSW, the potential is for largescale, grid-scale high-capacity Pumped Hydro installation(s)
- Efficiency – The proximity of the potential reservoir options provides geometries that can provide high Round-Trip Efficiency (RTE), minimising losses (based on example shown in: Modification Report Attachment 2 - Alternate Mine Land Re-Use Prospectus.pdf)
- Location – Is ideal given its proximity to Bayswater Powerstation electricity infrastructure and water supply downstream of Glenbawn dam for initial filling of the closed loop system
- Construction synergy – There is opportunity for the mining operation to undertake initial construction for Pumped Hydro (high volume earthworks and modification of the final landform, potential underground mining components), providing continued employment, reduced costs, continued utilisation of mining equipment and coal processing (converting what would otherwise be costly construction waste to mine production)

The “Mt Arthur Coal MOD 2 (Pathway to 2030)” project provides for a pathway to planned mine closure while being an enabler a high value energy storage opportunity (right timing, right size, right location, high efficiency, high value at reduced cost). I support the project on the basis of fully realising the post mining land use opportunity through early design, planning and subsequent approval of Pumped Hydro such that construction can be integrated with the final years of mining.

Regards,

David Gray