



Mr Steve Barry
Director
Independent Planning Commission of NSW

By email: steve.barry@ipcn.nsw.gov.au

4 December 2020

Dear Mr Barry

**Dendrobium Extension Project (SSD-8194)
Surface Water Quantity Offsets**

I refer to the Commission's request for additional information on how surface water offsets have been calculated for the Dendrobium Extension Project.

As discussed in the Department's Assessment Report, the Independent Pricing and Regulatory Tribunal (IPART) determines the retail price of water within the Sydney Drinking Water Catchment on an annual basis. This price can be used to represent the long-term cost of supplying water.

The IPART determination includes a base cost of water as well as a drought price which is used to reflect the increasing cost of supplying water in drought conditions. The current base price for water is \$2,300 per megalitre. When dam levels fall below 60%, this price currently rises to a drought price of \$3,180 per megalitre where it remains until dam levels reach 70%.

The Voluntary Planning Agreement offer includes two ways of calculating water offsets, both of which are based on the IPART determination.

During the operation of the mine, South 32 would make annual payments based on the actual surface water losses from the project and the IPART determination for each financial year.

To offset water losses that would occur post-mining, South 32 would make a single up-front payment upon approval of the first Extraction Plan for the project. The value of this payment is based on the present value of annual modelled surface water losses multiplied by a weighted average of the current IPART determination and annual inflation (3% per annum).

The weighted average price assumes that the IPART drought price will apply for 10% of the time to reflect expected long-term water supply conditions. This figure also reflects long-term water planning objectives for the NSW Government as outlined in the *2017 Metropolitan Water Plan*. This plan aims to ensure that water restrictions, which generally begin to apply at 50% dam capacity, occur no more than 1 in every 10 years.

A discount factor of 6.6% is then applied to determine the present value of the up-front payment. This discount factor is derived from IPART's most recent determination on Sydney's retail water prices.

Using this method, South 32 would pay for surface water losses for approximately 271 years after the completion of mining, at which time the present value of the payments would become negligible.

In providing this response, the Department has identified a discrepancy in the calculations that were previously used to determine the up-front payment. South 32 has revised its offer to correctly apply the weighted average IPART price, as described above.

South 32's revised offer, which is attached, results in an upfront payment of \$17.3 million. Appendix 5 of the recommended conditions of consent should be updated to reflect the revised offer, if the project is to be approved.

If you have any enquiries please contact Matthew Riley, Director Resource and Energy Policy, on (02) [REDACTED].

Yours sincerely

A handwritten signature in blue ink, appearing to read "Michael J.", written in a cursive style.

Mike Young
Executive Director
Energy, Industry & Compliance



30 November 2020

Mike Young
Executive Director
Energy, Resources and Compliance
Department of Planning, Industry and Environment

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via email: [REDACTED]

Dear Mike,

RE: DENDROBIUM MINE – REVISED SURFACE WATER OFFSETS OFFER

In response to recent discussions with the Department of Planning, Industry and the Environment (DPIE), and further to the letter dated 7 October 2020, we understand that DPIE has identified an error in the calculation undertaken by Marsden Jacobs for the up-front payment to offset post-mining surface water losses, in that only the IPART retail non-drought price was used in the calculation, rather than the weighted average of drought price 1 year in 10 and non-drought price 9 years in 10.

As a result of correcting this error (i.e. applying the weighted average price), we understand that the revised up-front offset payment for post-mining losses would increase to approximately \$17.3 million (i.e. an increase from \$16.7 million).

South32 accepts this correction. On this basis, Enclosure 1 provides further detail of South32's revised offer.

South32's offsets offer for the *Dendrobium Mine – Plan for the Future: Coal for Steelmaking* remains consistent with the methodology used by Marsden Jacobs to calculate offsets for both during mine life and post-mining losses, as described in the 7 October 2020 letter and Enclosure 1.

Consistent with the original offer, it is considered Government could use the payments provided by the surface water offsets to invest in water infrastructure that has intergenerational benefits and achieves a net gain to metropolitan water supplies.

If you have any queries, please don't hesitate to contact Gary Brassington on [REDACTED].

Yours sincerely
SOUTH32 LIMITED

A handwritten signature in black ink, appearing to read "W Bull", is written over the signature line.

Wayne Bull
Vice President Operations
Illawarra Metallurgical Coal – South32

ENCLOSURE 1
SOUTH32 SURFACE WATER OFFSETS OFFER

Methodology

- **During mine life – annual payments:**

- Annual payments would be made based on the actual surface water loss due to the Project for each water year (calculated at the end of each water year).
- Annual payments priced at the actual IPART retail price for that water year, which IPART would vary over time to reflect inflation and drought/non-drought year prices (prices are currently \$2,350/ML [base] and \$3,180/ML [drought]).

As an estimation, the during mine life offset value is calculated as approximately \$89.5 million in real terms (\$25.1 million in net present value terms), based on predicted surface water losses.

- **Post-mining – up-front payment:**

- Up-front payment made upon approval of the first Extraction Plan for the Project (i.e. payment linked to when surface water losses associated with secondary extraction for the Project would be authorised to commence).
- Value of payment based on the present value of modelled post-mining losses and IPART prices (assuming drought price 1 year in 10 and non-drought price 9 years in 10 as per Marsden Jacob's methodology).

Table 1: South32 Surface Water Offsets Offer

Project Year	Surface Water Offsets ¹		
	During Mining (Indicative Annual Payment) ²		Post-mining (Actual Up-front Payment) ^{3,4}
	Real	Net Present Value	
2021	-	-	\$17,300,000
2022	-	-	-
2023	\$104,191	\$80,686	-
2024	\$210,510	\$152,928	-
2025	\$291,678	\$198,775	-
2026	\$800,346	\$511,655	-
2027	\$610,500	\$366,124	-
2028	\$1,272,429	\$715,845	-
2029	\$1,015,083	\$535,710	-
2030	\$1,963,855	\$972,255	-
2031	\$2,955,733	\$1,372,710	-
2032	\$3,304,991	\$1,439,881	-
2033	\$2,125,390	\$868,636	-
2034	\$3,866,863	\$1,482,521	-
2035	\$2,662,295	\$957,505	-
2036	\$2,905,563	\$980,297	-
2037	\$3,155,032	\$998,560	-
2038	\$5,704,166	\$1,693,578	-
2039	\$3,620,398	\$1,008,352	-

Project Year	Surface Water Offsets ¹		
	During Mining (Indicative Annual Payment) ²		Post-mining (Actual Up-front Payment) ^{3,4}
	Real	Net Present Value	
2040	\$6,214,952	\$1,623,815	-
2041	\$3,894,751	\$954,599	-
2042	\$6,628,513	\$1,524,054	-
2043	\$4,112,912	\$887,108	-
2044	\$7,218,271	\$1,460,505	-
2045	\$4,768,216	\$905,042	-
2046	\$8,481,368	\$1,510,154	-
2047	\$5,929,649	\$990,438	-
2048	\$5,661,323	\$887,072	-
Total	\$89,478,978	\$25,078,804	\$17,300,000

¹ Surface water offsets are in addition to provision of annual payments to compensate WaterNSW for lost revenue and South32 holding appropriate groundwater and surface water licences (refer letter dated 2 June 2020).

² The annual payments for surface water losses during the mine life have been calculated based on the predicted surface water losses for the Project in the EIS. South32's offer is based on annual payments during mining which would be calculated annually based on actual surface water loss at the end of each water year (i.e. reflect real surface water losses) and varying IPART prices.

³ The up-front payment for post-mining losses (in net present value terms) is based on predicted post-mining surface water losses.

⁴ Up-front payment to be made upon approval of the first Extraction Plan for the Project.