ATTN: Alison Cummings
Manager
Department of Environment, Science, and Innovation
Coal and Central Compliance

Email: alison.cummings@des.qld.gov.au

1 March 2024

Dear Alison,

Re: Rolleston Open Cut Coal Mine Projected Greenhouse Gas Emission Assessment Erratum

As part of the Departments request for information (RFI) for the Rolleston Open Cut (ROC) coal mine's application to amend their Environmental Authority (EA) to include the Spring Creek North Continuation Project (SCNCP), METServe undertook an assessment of the projected greenhouse gas emissions expected to result from the SCNCP. The Department specifically requested information regarding the project's greenhouse gas emissions, and how the SCNCP will contribute to the climate targets outlined in the Queensland Climate Action Plan 2020 – 2030 (RFI item 12). The department further specified that ROC:

- Provide an inventory of projected annual Scope 1 and Scope 2 emissions for each greenhouse gas over the life of the SCNCP;
- Provide an estimate of annual Scope 3 greenhouse gas emissions for the life of the SCNCP;
- Provide a plan that outlines the avoidance, mitigation or offsets measures that will be implemented, and how these measures will contribute to Queensland's climate targets.

The SCNCP Projected Greenhouse Gas Emission Assessment (PGGEA) was submitted to the Department as "Attachment E" to the SCNCP EA amendment RFI second response, which was provided to the Department on October 12th 2023.

As part of the public notification of the SCNCP EA Amendment application, the RFI response, and supporting documents, including the PGGEA, were made available for public review by uploading to the Glencore Australia website.

Following the public notification period, and review of submissions from members of the public on the proposed SCNCP, it was made clear that an error had been made in the reporting of the Scope 3 emissions resulting from the SCNCP. This error was based on an incorrect multiplier utilised in determining the Scope 3 emissions, taken from Table 4 of the National Greenhouse Gas Accounts (NGA) Factors 2023 (which was incorrectly referred to as Table 3 in the PGGEA). Within the PGGEA, the Scope 3 emission factor of 3 kg Co_2-e/GJ for bituminous coal had been used to determine the Scope 3 impacts from the project, where the Scope 3 impacts should have been assessed as Scope 1 impacts from downstream users, utilising the Scope 1 emissions factors, which produce an emission factor for the combined gases of 90.24 kg Co_2-e/GJ for bituminous coal. This error impacted Scope 3 emissions only, with Scope 1 and 2 emissions projection stated within the PGGEA unaffected.

As a result of this error, the total and annual LOM combustion GHG Scope 3 emissions determined within Table 4-9 of the PGGEA have been found to be incorrect. Tables 4-13, 4-15, and 4-18, were also derived from values determined incorrectly in Table 4-9, as well as the SCNCP impacts and comparison of the SCNCP emissions against international GHG emissions estimates outlined within sections 4.6 (Greenhouse Gas Proportions), and Section 5 (Conclusion) of the PGGEA.

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Having been made aware of these errors within the SCNCP PGGEA, Glencore and METServe have worked to update the relevant sections to incorporate the Scope 1 multiplier from NGA Factors 2023 Table 4, and provide updated Scope 3 GHG emissions estimates based on the life of the project. These corrections are provided below, referencing the relevant tables and sections in the original PGGEA where applicable.

Corrected Scope 3 Assessment

Product coal combusted for the purposes of energy production were estimated using the NGA Factors 2023, Table 4, which presents the factors to be utilised for combustion of solid fuels for energy production. The coal produced across the ROC is classed as bituminous.

Using the SCNCP production data provided by ROC and the emissions factors given in Table 4 of the NGA Factors 2023, a GHG emissions estimate was produced using the following formula:

Emissions type = quantity of fuel x energy content of fuel x Scope 1 emission factor for each gas type (combined factor of 90.24 kg Co_2-e/GJ)

This figure is produced in kg CO_2-e, which is then divided by 1000 to give t CO_2-e.

Table 4-9 of the original PGGEA has been updated below to incorporate this amended multiplier.

Table 4-9 Total Product Coal Scope 3 Emissions (Updated)

Total Product Coal – Thermal (Bituminous)			
	Product Coal	Emissions Factor	
Emission Factor	27.0 GJ/t	90.24 kg CO_2-e/GJ	
Volume	33,739,503.53 t	82,205,625.5 t CO_2-e	
Total SCNCP LOM Scope 3 Product Coal Combustion Emissions (t CO_2-e)			82,205,625.5
Annual Average SCNCP Scope 3 Product Coal Combustion GHG Emissions (t CO_2-e)			5,871,830.39

Breakdown of gasses as per NGA Factors2023 Table 4:

CO_2: 81,986,993.5 t CO_2-e

CH_4: 36,438.66 t CO_2-e

N_2O: 182,193.32 t CO_2-e

Tables 4-13, 4-15, and 4-18 have been updated below to include the updated values output from Table 4-9. The value for total Scope 3 emissions within these updated tables also include emissions resulting from both rail and shipping transport methods to third party customers. These values remain unchanged from the original submission. This total Scope 3 value includes 6,558,443.9 t CO_2-e of emissions resulting from shipping of coal produced from the SCNCP to offshore customers across the life of the project (Table 4-11 of PGGEA), and 249,029.06 t CO_2-e of rail transport within Queensland for coal mined across the life of the SCNCP (Table 4-10 of PGGEA). These average 468,460.3 t CO_2-e and 17,787.79 t CO_2-e respectively per year over the life of the project. (see **Section 4.5.3** of PGGEA).

Table 4-13 Total SCNCP GHG Emissions (Scope 1, 2 & 3) (Updated)

Total SCNCP Emissions (t CO_2 – e)			
Scope 1 Emissions	Scope 2 Emissions	Scope 3 Emissions	Total LOM Emissions
579,755.75	96,950.88	89,013,098.5	89,689,805.1

Table 4-15 Average Annual SCNCP GHG Emissions (Scope 1, 2 & 3) (Updated)

Average Annual Emissions (t CO_2 – e)			
Scope 1 Emissions	Scope 2 Emissions	Scope 3 Emissions	Average Annual Emissions
41,411.13	6,925.06	6,358,078.46	6,406,414.65

Table 4-18 Projected SCNCP Emissions vs Global GHG Emissions (Updated)

Projected SCNCP Emissions vs Estimated Global GHG Emissions (2020)			
Emissions Type	Projected Annual SCNCP Emissions (t CO_2-e pa)	Estimated Global GHG Emissions (2020) (t CO_2-e pa)	SCNCP Contribution to Global Emissions (%)
Scope 1	41,411.13	47,513,150,000	0.00009
Scope 2	6,925.06		0.00001
SCNCP Generated (Scope 1 & 2)	48,336.19		0.00010
Scope 3	6,358,078.46		0.01338
Total GHG Emissions	6,406,414.65		0.01348

Updated Impact Assessment and Conclusions

As a result of the updates to Tables 4-9, 4-13, 4-15 and 4-18, some values within the greenhouse gas proportions and conclusions sections have changed. As the error was only identified to have impacted the Scope 3 calculations there are no changes to the Scope 1 and 2 emissions, or their contribution to both state and federal GHG emissions totals.

As per the original PGGEA, the majority of Scope 3 emissions will be created downstream of the SCNCP, where product coal is combusted for steam production offshore, where these Scope 3 emissions will be included in the Scope 1 and 2 emission reporting by the end user for the relevant countries. As such, the total SCNCP GHG value (Scope 1, 2 & 3 emissions) of 6,406,414.65 t CO_2-e pa is compared against global GHG emissions estimates.

Using the 2020 WRI CAIT Climate Data Explorer (CAIT) dataset provides the most recent available value for global GHG emissions at 47,513,150,000 t CO_2-e pa. The 6,406,414.65 t CO_2-e pa value for total upstream and downstream average annual SCNCP GHG emissions gives a proportion of 0.01348% of global GHG emissions for the entire extraction to consumption lifespan of coal produced by the proposed SCNCP. The RCH controlled emissions (Scope 1 and 2) remain unchanged and amount to 0.0001% of estimated annual global GHG emissions (**Table 4-18**).

Yours sincerely,

Andrew Turnbull
Senior Consultant - Environment