NSW GOVERNMENT | Planning, Industry & Environment

IRF21/1417

Dr Jacqueline Tracey
Acting Executive Director
Independent Planning Commission
[redacted]

Dear Dr Tracey

I refer to your letter dated 31 March 2021 on behalf of the Panel appointed to the Tahmoor South Coal Project, requesting information from the Applicant, SIMEC Pty Ltd, on whether Scope 1 greenhouse gas (GHG) emissions could be reduced further.

The Panel has also asked about the potential to impose a GHG Scope 1 emission target less than that currently estimated by SIMEC and require measures to be implemented, including offsets, in the event the proposed target was exceeded.

The Department of Planning, Industry and Environment (the Department) has consulted with SIMEC, which has provided a detailed response for the Panel's consideration. A copy of this is enclosed.

Ability to further reduce Scope 1 emissions
SIMEC in its advice contends that it has implemented best practice measures for methane capture at its Tahmoor North Mine through its pre and post gas drainage system incorporating power generation and flaring. This system would continue to be implemented at Tahmoor South. This would achieve around a 27 per cent reduction in Scope 1 carbon dioxide equivalent (CO_2-e) emissions, from 26.7 million tonnes (Mt) CO_2-e unabated to 19.3 Mt CO_2-e abated.

The Department also notes that the proposed amendments to the project and recommended conditions to reduce subsidence impacts on homes and natural features has led to a reduction in total GHG emissions of around 30 per cent compared to the original application, due to the reduction in run-of-mine (ROM) coal extraction from 48 Mt to 32 Mt.

Whilst the project has a relatively high emissions intensity compared to other mines, the total project life GHG emissions are consistent with other operating mines in NSW. Table 1 in the enclosed letter provides some further details on comparable NSW underground mines in relation to Scope 1 emissions, noting total Scope 1 emissions of up to 37.3 Mt CO_2-e.

As described in the advice from SIMEC, the Department notes the following in relation to further abatement of Scope 1 emissions:

- Due to being a gassy mine, Ventilation Air Methane (VAM) is by far the main contributor to Scope 1 emissions, being 18.7 Mt CO_2-e of a total 19.3 Mt CO_2-e (around 97 per cent).
- Under current technology, with high ventilation air flow and low methane concentrations (0.3-0.4 per cent) there is limited opportunity to cost effectively capture and oxidise methane to carbon dioxide to further reduce Scope 1 emissions.
- Commercial systems to treat VAM are available but are currently high cost. SIMEC estimated that it would cost around $100 million to develop and operate a VAM treatment system which, SIMEC argues, given the significant amendments to the project already, would make the project financially unviable and would increase Scope 2 emissions.
- However, VAM treatment technology is still in development and SIMEC has committed to ongoing review of the technology over the life of the project.
- There is limited opportunity to increase pre-drainage and post drainage methane capture ahead of mining through either in-seam or surface to seam methods.

SIMEC has provided supporting evidence that further reductions in Scope 1 emissions cannot be reasonably applied at this time.

The Department has recommended conditions that SIMEC undertake all reasonable and feasible steps to improve energy efficiency and reduce fugitive GHG emissions of the development, and implement greenhouse gas abatement measures. This would be implemented through the recommended Air Quality and Greenhouse Gas Management Plan.

That is, SIMEC would be required to demonstrate through the life of the project it has applied measures to minimise its Scope 1 and Scope 2 emissions regardless of whether a GHG emission limit is imposed as a condition of consent.

However, the Department recommends that, if a Scope 1 target is included in consent conditions, that the Scope 1 emissions outlined in Table 2 of the enclosed letter should be applied to the project, as a project life total of 19,310,249 t CO_2-e. This should be tracked using a three-year rolling average of actual annual emissions, noting that actual emissions may vary from predicted if extraction rates change.

Commitment to further reduce Scope 2 emissions

As outlined in response from SIMEC, it has committed to use green energy sourced from a solar energy generator. It is estimated that there would be a 300,000 t CO_2-e reduction in Scope 2 emissions and SIMEC has committed to achieving this reduced target and has incorporated this into the predicted Scope 2 emissions in Table 2.

The Department recommends that, if a Scope 2 target is proposed, that the Scope 2 emissions outlined in Table 2 should be applied to the project, as a project life total of 1,239,350 t CO_2-e. This should be tracked using a three-year rolling average of actual annual emissions, noting that actual emissions may vary from predicted if annual extraction rates change.

Government Policy and Guidelines on Scope 1 GHG emissions
Under *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* (the Mining SEPP), the consent authority is required to consider whether conditions should be attached to consents to ensure that the development is undertaken in an environmentally responsible manner, including conditions to ensure that GHG emissions are minimised to the greatest extent possible.

Further, the consent authority, in determining a development application, must also consider an assessment of GHG emissions (including downstream emissions) from the development, and must do so having regard to any applicable State or national policies, programs or guidelines concerning GHG emissions.

There are two key documents of relevance for the assessment of the project - the NSW Government's *NSW Climate Change Policy Framework* (CCPF), the Commonwealth Government's commitments to the *United Nations Framework Convention on Climate Change (UNFCCC) Paris Agreement 2015* (Paris Agreement).

Further, in March 2020, to supplement the CCPF, the Government announced a new 10-year plan to put the State on track to achieve net-zero emissions by 2050, the *Net Zero Plan Stage 1: 2020-2030*. The Plan builds on the CCPF and sets out a number of initiatives to deliver a 35 per cent cut in emissions by 2030, compared to 2005 levels.

Should the Commission require, the Department would be happy to provide further advice to the Panel on the application of these policies in accordance with the Memorandum of Understanding and Administrative Arrangements in place between the Commission and the Department.

I trust this information is of assistance. If you require more information or wish to discuss this further please contact Mr Mike Young, Executive Director, Energy, Industry and Compliance at the Department of Planning, Industry and Environment on [redacted] or [redacted].

Yours sincerely

Marcus Ray
Group Deputy Secretary
Planning and Assessment
12/04/2021
Encl: Response from SIMEC