22 April 2010

Mr Dave Kitto
Director- Major Development Assessment
NSW Department of Planning
GPO Box 39
Sydney 2001

Dear David

RE: Section 75W Modification Application, Bulga Coal Blakefield South Power Generation and Ventilation Air Methane Abetment- Response to Regulator Submissions.

We have received copies of the NOW, DII and DECCW submissions regarding the above titled modification application. It is our understanding the NOW and DII responses do not require any further information from Bulga Coal. Following is the response to the DECCW submission (a copy of which is attached for your convenience).

1.0 Bulga Coal Response to the DECCW submission.

1.1 DECWW query 1

DECCW notes that there are some typographical errors in sections in 4.1.2.2 and Appendix C regarding the units for electricity consumption emissions that should be clarified. Additionally it is not clear from the assessment what the on-site electricity consumption is estimated to be and DECCW seeks clarification of this.

Please note that the title of Section 4.1.2.2 of the Environmental Assessment should have been "4.1.2.2 Project Electricity Consumption Emissions" and the units should have been CO2-e not CO2-e/kWh. Please note that as much as the units were incorrect the values were not. The Project on-site electricity consumption is represented by the Q value in Table D of Appendix C and is estimated to be 73 MWh/year for the generators (total) and 3,460.2 MWh/year for the VAM abatement unit.

1.2 DECCW query 2

Currently at the mine coal seam methane is drained and flared as waste. Using this energy source to produce electricity rather than treating it as a waste product will result in significant greenhouse gas emissions abatement both annually and over the life of the project. The project could generate up to 219,000 MWh of electricity per annum with a proportion of this used on-site and the balance input into the national grid. It would be informative if the proponent could provide an estimate of what proportion of generated electricity is likely to be supplied to the grid.

The Bulga Coal Complex currently has a power demand level of approximately 23 MW, sourced from the public grid, thus construction of 25 MW of gas fired power generation would in general largely be consumed by Bulga Coal.

1.3 DECWW query 3

DECCW considers that the proponent should consider electricity generation from the proposed VAM plant for this project and requests that the proponent provide further information or analysis of this option, including details of any site specific characteristics that would preclude the generation of electricity from VAM at the site.

Bulga Coal is concerned about the effectiveness of the VAM abatement units at low concentrations of methane. As described in the environmental assessment Bulga Coal is intending to install a VAM abatement unit as a pilot to enable sufficient data to be collected to evaluate the greenhouse gas abatement capacity and potential beneficial use of the generated heat. US EPA trials have demonstrated that 0.7% of methane is required to have sufficient surplus energy recovery to support power generation such a steam generation. Blakefield South is expected to have 0.5% methane in the ventilation air which is believed to be insufficient for power generation. Xstrata is looking at better ways to uses the very low grade heat produced by the VAM and is working with CSIRO and others to maximise the energy efficiency of the total system.

1.4 DECWW query 4

DECCW recommends that the EA be revised in provide a quantitative assessment of potential ground level concentration impacts. The air quality assessment must:

- be conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*;
- quantify emissions to air for all proposed sources, preferably based on manufacturers performance specifications/guarantees;
- provide a detailed description of the ambient receiving environment, with particular focus on background pollution concentrations, prevailing meteorological conditions and nearby sensitive receptor locations;
- provide a cumulative impact assessment based on regulatory dispersion model predictions and representative background pollution concentrations; and
- where emission controls are assumed as part of the air quality impact assessment, specific details pertaining to those controls should be provided.

Bulga Coal enaged PAE Holmes to undertake an air quality assessment as requested by DECCW. A copy of the assessment is attached and concludes:

"The modelling indicates that peak ground level NO2 impacts from the Power Generation Project are well below the impact assessment criteria of 246 µg/m3 at all private receptor locations in the vicinity of the site. The potential for cumulative impacts is also expected to be small, based on the predicted incremental concentrations being significantly less than 50% of the goal, and background levels shown as being typically 25% of the goal. Annual average NO2 concentrations from the Power Generation Project are predicted to be negligible (less than 3% of the goal). Incremental increases in other pollutant concentrations, including CO and VOCs are also predicted to be minor."

2.0 Bulga Coal DA (43-03-99) Feb 2010 Modification (Noise)

One of the key elements of the application to modify the Bulga Coal (Open Cut) DA (43-03-99) submitted to DoP in February 2010 was to end up with one noise criteria for the entire Bulga Coal Complex. The supporting noise assessment included all noise generated from the Bulga Coal Complex and in particular the underground operations and the infrastructure described in the Blakefield South Power Generation and Ventilation Air Methane Abetment DA modification application.

If the administrative processes allow, it is requested that the noise criteria for DA (376-08-2003) be change to be consistent with the pending February 2010 DA (43-03-99) modification in conjunction with the Blakefield South Power Generation and Ventilation Air Methane Abetment DA modification.

If you have any queries please do not hesitate to contact me (Ph 6570 4354, Mob 0418 439 874)

Yours faithfully

Ralph Northey
Environment and Community Manager
Bulga Coal Complex

CC: Belinda Parker (Email)

Your reference: S02/02148
Our reference: DOC09/61456; LIC08/957
Contact: Karen Marler: (02) 49086803

NSW Department of Planning
Major Project Assessments - Mining
GPO Box 39
SYDNEY NSW 2001
Attention: Ms Belinda Parker

29 JAN 2010

Dear Ms Parker

Section 75W Modification Application Beltana Coal Mine Ventilation Air Methane Abatement and Power Generation Proposal (DA376-8-2003 MOD 4)

I refer to your letter dated 29 December 2009 seeking comments from the Department of Environment, Climate Change and Water (DECCW) regarding the above application. DECCW has reviewed the document "*Environmental Assessment Blakefield South Power Generation and Ventilation Air Methane Abatement*" prepared by Umwelt (Australia) Pty Ltd and dated December 2009 ("the EA") provided by the applicant in support of the application.

DECCW understands that proposed modification is for:

- The installation and operation of up to eight (8) coal seam gas fired reciprocating engine power units which will generate up to 25MW of electricity and associated infrastructure including a 2.5km gas pipeline
- Construction and operation of a pilot ventilation air methane (VAM) abatement system (reverse flow thermal reactor)

Comments relating to DECCW's detailed assessment of the EA are provided below.

Greenhouse Gas Impact Assessment

DECCW notes that this project will provide significant greenhouse gas emissions abatement both from on-site emissions abatement and from avoided emissions through displacement of grid electricity.

The proponent has provided a greenhouse gas and energy assessment which estimates the Scope 1, Scope 2 and Scope 3 emissions from the project using appropriate methodology. The proponent estimates that the project will result in abatement of 4.66 million tonnes CO2e over the life of the project. The majority of abatement is from the displacement of grid electricity by the gas-fired power generating system which results in annual abatement of 0.195 Mt CO2e. Similarly the proponent estimates that total emissions abatement from ventilation air methane (VAM) treatment will be 0.83 Mt CO2e for the life of the project or 0.046 Mt CO2e per annum.

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DECCW notes that there are some typographical errors in sections in 4.1.2.2 and Appendix C regarding the units for electricity consumption emissions that should be clarified. Additionally it is not clear from the assessment what the on-site electricity consumption is estimated to be and DECCW seeks clarification of this.

Currently at the mine coal seam methane is drained and flared as waste. Using this energy source to produce electricity rather than treating it as a waste product will result in significant greenhouse gas emissions abatement both annually and over the life of the project. The project could generate up to 219,000 MWh of electricity per annum with a proportion of this used on-site and the balance input into the national grid. It would be informative if the proponent could provide an estimate of what proportion of generated electricity is likely to be supplied to the grid.

Similarly oxidation of VAM rather than direct venting will also contribute to significant emissions abatement at the site. The proposal for VAM abatement is for a single pilot system treating 60,000 Nm^3/h designed to prove the application of the technology. Depending on the outcome of the pilot program the proponent may add additional units to further reduce VAM emissions.

DECCW notes that the proposal is for VAM abatement only. The Vocsidizer system identified by the proponent for VAM abatement is also capable of producing steam and generating electricity via a steam turbine. This currently occurs at BHP Billiton's WestVAMP facility at the West Cliff Colliery which utilises up to 250,000 Nm^3/h of ventilation air to operate a 6 MW steam turbine.

DECCW considers that the proponent should consider electricity generation from the proposed VAM plant for this project and requests that the proponent provide further information or analysis of this option, including details of any site specific characteristics that would preclude the generation of electricity from VAM at the site.

Air Quality

The EA states that the "*operation of the power generation plant and VAM abatement system is unlikely to result in significant air emissions*", however, the EA does not quantify emissions to air and does not provide any detail on the manner that emissions will be vented to atmosphere. While the EA lists the *Protection of the Environment Operations (Clean Air) Regulation 2002* Group 6 emission limits as air quality criteria for the project, it should be noted that these limits refer to in-stack emission concentrations. The EA does not demonstrate compliance with ground level concentration criteria specified in the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* at sensitive receptors surrounding the site.

DECCW recommends that the EA be revised in provide a quantitative assessment of potential ground level concentration impacts. The air quality assessment must:

- be conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW*;
- quantify emissions to air for all proposed sources, preferably based on manufacturers performance specifications/guarantees;
- provide a detailed description of the ambient receiving environment, with particular focus on background pollution concentrations, prevailing meteorological conditions and nearby sensitive receptor locations;
- provide a cumulative impact assessment based on regulatory dispersion model predictions and representative background pollution concentrations; and
- where emission controls are assumed as part of the air quality impact assessment, specific details pertaining to those controls should be provided.

Provision of the above requested information will assist DECCW to consider general terms of approval for this project. If you have any questions regarding this matter please contact Karen Marler on (02) 49086803.

Yours sincerely

ROSS BRYLYNSKY
A/Head Regional Operations Unit
Environment Protection and Regulation