NSW GOVERNMENT | Environment, Climate Change & Water

PCU005079

Our reference : LIC06/562 DOC10/3538

Mr Neville Osborne
Manager – Water and Energy
Infrastructure Projects
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Mr Osborne,

Re: South East Fibre Exports 5.5 MW Biomass Power Plant Project (Application Reference 09_0034)

I refer to your letter, dated 15 March 2010, and accompanying Environmental Assessment (EA) which was provided to the Department of Environment, Climate Change and Water (DECCW) in relation to the abovementioned Project Application.

DECCW has reviewed the information provided and has determined that it is able to support the proposal subject to the proponent addressing the issues outlined in Attachment 1 of this letter by amending its draft Statement of Commitments and providing additional information. Specifically, DECCW considers that the following issues must be addressed:

1. the proposed performance criteria for dioxin concentration in air emissions need to be amended, and

2. additional water quality modelling to refine the proposed trigger values for the release of warm water discharges needs to be undertaken.

DECCW has assessed the greenhouse gas emissions component of the EA using the National Greenhouse Accounts Factors (Department of Climate Change, 2009). The greenhouse gas assessment indicates that the project will lead to increased greenhouse gas emissions compared to current practices at the woodchip mill. However, DECCW considers that there will be an overall reduction in the greenhouse gas emissions as a result of the change from electricity production from a non-renewable source to a renewable resource.

DECCW request that it be given an opportunity to review the Preferred Project Report and Response to Submissions in order to determine if the required assessment and modifications have been made to the proposal.

It is noted that if the project is approved, the proponent will need to make a separate application to DECCW to amend its environment protection licence.

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If you require any additional information, or wish to discuss the matter further, please contact me on 62297002.

Yours sincerely

NIGEL SARGENT
Manager, South East Region
Environment Protection and Regulation Group

30/4/10

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Attachment A

DECCW Submission - Environmental Assessment for the South East Fibre Exports 5.5 Megawatt Biomass Power Plant Project

AIR QUALITY ASSESSMENT

Dioxin emissions

Dioxin emissions from the project have been assessed in the EA using an assumed dioxin emission of 0.2 ng/m^3.

DECCW considers that a dioxin emission of 0.2 ng/m^3 is above the guideline performance criteria for this type of project of 0.1 ng/ m^3. Although the level of 0.1 ng/ m^3 does not strictly apply as the proposal is burning standard fuels, DECCW expects a similar level of performance from the project as a well designed wood-waste boiler could readily comply with a dioxin limit of 0.1 ng/ m^3 given the proposed fuels.

In order to address this issue DECCW recommends that the draft Statement of Commitments be revised to guarantee that dioxin emissions from the project will meet the appropriate performance criteria of less than 0.1 ng/ m^3.

WATER QUALITY ASSESSMENT

Thermal dilution of discharges

The EA has not presented the detailed design stage that was committed to by the draft EA. The detailed design stage is required to determine the final characteristics of the plume. The previous edition of the EA that was submitted to DECCW on 10 February 2010 proposed additional modelling as well as validation experiments on the actual discharge after commissioning.

It appears that the EA has not taken into account the seasonality when calculating the temperature trigger value for discharges from the project. In order to address this issue, DECCW considers that the proponent should calculate both the 80th percentile and 50th percentile ambient temperatures for February and August, or alternatively three months of summer and three months of winter calculations should be provided and subtract this calculation from the 50th percentile calculations (Table 2-3 in Appendix B) and use those trigger values for comparison.

DECCW recommends that the proponent incorporate the following comments in its proposal for a detailed design stage modelling (as well as the proposed model validation) prior to commissioning of the proposal.

DECCW recommends that the proponent provide the following information prior to commissioning of the project:

Ambient currents

- Modelling should use the 10th percentile current speed, (0.105m/s) as a representation of a worst case scenario.

- Actual current meter data and ambient water temperature data should be collected and used.

- The proposed modelling should examine current variability in the vicinity of the discharge point (temporal and spatial (vertical)) and take this variability into account to better understand plume behaviour under a variety of ambient conditions.

Discharge port configuration

- Variation in discharge port velocity from that proposed in the EA should be examined to ensure that variations in discharge characteristics do not induce near-field instability leading to bottom attachment or impingement.

- Consideration of other options such as lifting the diffusers further from the bottom is recommended.

- The proposed modelling and model validation should look at all reasonable variations in discharge characteristics not just a perceived worst case scenario.

Discharge volume

- The variation in discharge volume from Case 1 summer of 29ML/day to winter 13.9ML/day is significant and for the proposed design phase modelling it should be specified whether these are 50th percentile flow rates or 80th, 90th percentiles.

- The benefit of Case 1 over Case 2 is stated several times and the report says that there were marginally better environmental outcomes, however the actual differences between the two options should be clearly defined.

Trigger values for temperature

- The 50th and 80th percentile temperature values have been derived in a manner that is not consistent with the ANZECC & ARMCANZ (2000) Water Quality Guidelines for temperature and this should be corrected in the detailed modelling stage. It appears that all monthly averages across the whole year have been added together to come up with the yearly mean values. However, temperatures should be characterised by season, at least a summer and a winter (which has considered in other aspects of the modelling exercise). It is recommended that actual temperature data are collected for detailed design stage modelling.