NSW EPA

Our reference: : DOC13/2560 LIC09/986-02
Contact : Mr Lindsay Fulloon ~ 02 6773 7000 ~ armidale@epa.nsw.gov.au
Date: : 30 January 2013

Ms Lisa Mitchell
Manager, Water
Infrastructure Assessments
NSW Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Ms Mitchell

Exhibition of Environmental Assessment for Chaffey Dam Augmentation and Safety Upgrade (SSI_5039)

I refer to the correspondence from the Department of Planning and Infrastructure (DoP&I) dated 11 December 2012 inviting the Environment Protection Authority (EPA) to make a submission further to the public exhibition of the Environmental Assessment (EA) for the Chaffey Dam Augmentation and Safety Upgrade Project. The EPA received a copy of the above correspondence and the EA on the 13 December 2012.

The EPA has reviewed the information provided. Detailed comments and recommendations on the proposal are provided at **Attachment 1** to this letter. In summary, from the information presented in the EA, the EPA is of the opinion that the most significant issues that will need to be addressed in any project approval are:

- Additional air quality mitigation strategies are required to ensure that predicted air impacts at all sensitive receptors meet EPA assessment criteria;
- An Air Quality Management Plan will be required for the Project; and
- Alternative piling methods such as bored or vibratory approaches should be considered in lieu of impact piling where feasible and reasonable to reduce noise emissions.

Should you have any questions with respect to the attached notice, please do not hesitate to contact Mr Lindsay Fulloon in the EPA's Armidale office on (02) 6773 7000 or via e-mail at armidale@epa.nsw.gov.au.

Yours sincerely

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ATTACHMENT 1 – EPA SUBMISSION FOR PROPOSED CHAFFEY DAM AUGMENTATION AND SAFETY UPGRADE

AIR QUALITY IMPACTS

The EPA has reviewed the report *Chaffey Dam Augmentation and Safety Upgrade Air Quality Impact Assessment* (SLR Consulting Australia Pty Ltd, 25 September 2012) (the AQIA).

The AQIA was undertaken generally in accordance with the requirements outlined in the EPA document *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (Approved Methods). The AQIA includes emissions of significant pollutants from each of the main emission sources including:

- excavation, handling and stockpiling of soil and rocks (excavators, truck loading and unloading);
- dozers and graders working on stockpiles and haul routes;
- vehicle movements on unpaved roads; and
- wind erosion of stockpiles and disturbed soils.

The AQIA models a worst case emission scenario with the main construction activities occurring simultaneously to ensure worst case impacts from the Project are assessed and conservative outcomes are predicted.

The Project has the potential for adverse air impacts at residential receptors located close to the road construction activities along Western Foreshore Road and Bowling Alley Point. Air impacts are predicted to exceed EPA assessment criteria at some sensitive residential receptors in these areas.

The AQIA predicts exceedences of the 24-hour average PM_{10} assessment criteria (50 $\mu g/m^3$) at residential receptors R5 (maximum 57 $\mu g/m^3$, 4 exceedences predicted), R7 (maximum 155 $\mu g/m^3$, 16 exceedences predicted) and R8 (maximum 64 $\mu g/m^3$, 6 exceedences predicted).

The AQIA also predicts exceedences of the Project adopted 24-hour $PM_{2.5}$ criteria (25g/m^3) at residential receptor R7 (30.5 $\mu g/m^3$, 3 exceedences predicted).

The predicted exceedences and risk of significant adverse air quality impacts are associated with construction activities along adjacent roads. The most impacted receptor (R7) is located closest to Rivers Road where the Project alone contributes 150 $\mu g/m^3$ to the maximum 24-hour average PM_{10} concentration. The modelling of construction activities has been based on a worst case scenario for this receptor, with all earthmoving equipment operating in the section of road immediately adjacent to this residence. The AQIA notes that due to the transient and short term nature of the Project, this scenario will not occur for an entire year, and the number of predicted exceedences is likely to be lower in reality.

The AQIA notes that higher PM_{10} concentrations could occur at receptors R3 and R6 when the earthmoving equipment associated with the realignment of Tamworth-Nundle Road, Rivers Road and Bowling Alley Point Bridge occurs further to the north. Impacts at these receptors however are expected to be less than those at receptor R7 however, as they are located further away from the road.

The Environmental Impact Statement (Section 8.8.4) states that construction activities will be carried out in a manner that minimises dust emissions wherever practicable, utilising best practice dust control measures. Additional dust management is proposed to be implemented during road and bridge construction activities in the vicinity of receptors R5, 7 and 8 including:

- construction to be carried out during the summer months where practicable;
- travel speed to be limited to 40 km/hr; and
- additional watering of unsealed roads under adverse conditions.

Recommendations: The EPA recommends that DoP&I require the proponent (State Water) to:

1. Revise the AQIA to include additional particle mitigation strategies so that predicted air impacts at all sensitive receptors meet EPA assessment criteria. Any additional particle emission controls must be consistent with best practice.
2. Develop and implement an air quality management plan (AQMP) for the Project. The AQMP will require the following information for each air pollutant and emission source:
   - key performance indicator;
   - monitoring method;
   - location frequency and duration of monitoring;
   - record keeping;
   - response mechanisms; and
   - compliance reporting.
3. Provide further details of each proposed mitigation strategy to ensure the effective implementation of each strategy can be demonstrated, consistent with the above requirements.

NOISE AND VIBRATION IMPACTS

The EPA has reviewed the "Chaffey Dam Augmentation and Safety Upgrade Noise and Vibration Impact Assessment" dated 3 October 2012 prepared by SLR (Dam NVIA) which forms part of the Environmental Impact Statement prepared by Worley Parsons dated 7 December 2012 (Dam EIS).

In summary, there are no major issues with the Dam NVIA. The Environmental Assessment Requirements (EARs) as presented in the Dam EIS have been satisfactorily addressed.

The Dam construction and operational noise criteria are based on the minimum INP background noise level of 30 dBA.

The EPA notes that there are a number of residential receivers in the vicinity of the Dam project that are predicted to be affected by construction noise emissions above the noise management levels (NMLs) presented in the Dam NVIA. A number of noise mitigation and management measures are proposed to address the construction noise impacts and the Dam NVIA appropriately acknowledges that even with these measures in place, the NMLs are not likely to be achieved at a number of locations. The EPA therefore recommends that alternative piling methods, such as bored piling or vibratory piling, should be considered in lieu of impact piling where feasible and reasonable to reduce noise emissions.

The EPA also notes that a moderate increase in noise due to Dam construction traffic is predicted on Lindsays Gap Road/Garoo Road, although the total road traffic noise level remains within the relevant criterion.

The Dam EIS and Dam NVIA state that construction activities are only to take place during the standard construction hours specified in the Interim Construction Noise Guideline. The EPA recommends that any works outside those standard hours require prior approval and appropriate justification.

As noted in the Dam NVIA, any blasting activities should be monitored to ensure compliance with the relevant airblast and vibration criteria.

Recommendations: While the EPA acknowledges that the NVIA satisfactorily addresses the EARs, it recommends that DoP&I requires the proponent (State Water) to:

1. Utilise alternative piling methods (e.g. boring or vibratory piling) where feasible and reasonable to further reduce impacts at affected receptors;
2. That should the necessity arise for any construction works to occur outside the standard construction hours specified in the Interim Construction Noise Guideline, that this should only occur with prior approval from DoP&I and with appropriate justification; and
3. Monitor the air blast overpressure and ground vibration associated with any blasting activities to ensure compliance with the relevant performance criteria.