NSW EPA

Our reference: EF15/142, DOC16/635147
Contact: Janine Goodwin (02) 62297002 or queanbeyan@epa.nsw.gov.au

Ms Alix Carpenter
Team Leader- Infrastructure Projects
Social and Other Infrastructure Assessments
Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Dear Ms Carpenter

Re: Development Application – Proposed Eden Breakwater Wharf Extension (SSI 7734)

I refer to your email of 11 November 2016, requesting comments from the NSW Environment Protection Authority ("EPA") in relation to the development application lodged with the Department of Planning & Environment ("DPE") for the proposed Eden Breakwater Wharf Extension located within Snug Cove and Twofold Bay.

The EPA reviewed the Environmental Impact Statement (EIS) for the proposal "*Eden Breakwater Wharf Extension – State Significant Infrastructure – Environment Impact Statement*", prepared by Advisian WorleyParsons Group dated 3 November 2016. The EPA provides the following comments in relation to the proposal for DPE's consideration. Attachment 1 to this letter outlines the specific details in relation to these issues and the EPA's recommendations are highlighted in italics. In summary, the issues relate to:

a) Construction and operational noise impacts
b) Impacts on water quality from dredging and construction activities
c) Air quality

Should this proposal be approved, the applicant will need to apply to the EPA for an Environment Protection Licence for the scheduled activity of "Extractive Activities" (for the dredging component of the proposal).

I trust these comments for this proposal are helpful. Should you or the applicant have any queries or wish to discuss this matter, please contact Ms Janine Goodwin on (02) 6229 7002 or queanbeyan@epa.nsw.gov.au.

Yours sincerely

15·12·2016

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ATTACHMENT 1

Noise

The EPA has conducted a review of the proponent's noise and vibration assessment contained within the EIS, and provides the following comments for consideration.

Construction noise

Construction Noise and Vibration Management Plan

The EPA notes in the EIS, the commitment to manage construction noise via a detailed Construction Noise and Vibration Management Plan (CNVMP) for the project, and that it will be prepared by the successful contractor prior to commencement of works on site.

The EPA recommends that the Department of Planning and Environment include as a condition in any approval, a requirement to develop and implement a CNVMP consistent with the NSW "Interim Construction Noise Guideline" (ICNG) and the "Transport for NSW Construction Noise Strategy" (or equivalent). The CNVMP may include (but not be limited to):

- ***applying all feasible and reasonable work practices and mitigation measures to minimise noise impacts;***
- ***detail a targeted range of management and monitoring options including provision of respite periods during construction, and a detailed communication and complaint management strategy for impacted residents up to, and including, provision of alternative respite accommodation.***

Highly noise affected levels

The EPA notes that the main sources of noise and vibration emissions are likely to include:

- Pilling and installation of rock anchors
- Dredging
- Barge movements
- Demolition works
- Truck and vehicle movements
- Movement and positioning of materials onsite
- Operation of work boats for a range of related purposes

All works, with the exception of dredging, are proposed to be undertaken within standard construction hours. The EPA notes that predicted noise levels during impact piling exceed the "Highly Noise Affected" level at some residences.

The EPA recommends that, should approval be granted, the proponent ensure a demonstrated commitment within their CNVMP to the provision of respite periods where noise exceeds the Highly Noise Affected level of 75dBLAeq,15minute.

Dredging outside standard construction hours

Dredging activities are proposed to be undertaken 24 hours a day, seven days a week for a period of 6 to 15 weeks, depending on the final dredging option chosen. The EPA notes that predicted noise levels at the nearest residences at night would be 10 to 20dB above Rating Background Levels. As per the ICNG, the EPA and the Department of Planning and Environment usually limit noise from infrastructure works outside of standard construction hours to be no more than 5dB about background. The EPA advises that works undertaken outside of standard construction hours may include public infrastructure works that shorten the length of the project and are supported by the affected community or where there is a clear demonstration or justification for need for this to occur.

Operational noise and vibration

Noise mitigation

The EPA notes that noise levels as a ship transits to berth, and while at berth, are predicted to exceed the Industrial Noise Policy criteria by 2 to 12dB at nearby residences, with the highest predicted noise levels around 49 to 51dBA. The key noise sources while at berth include the exhaust stack and mechanical ventilation plant. The Environmental Assessment identifies that there are limited or no opportunities to reduce noise levels at the noise source, along the transmission path, or at potentially affected noise sensitive receiver locations. The EPA advises that potential noise mitigation measures that are implemented at other cruise ship wharves include:

- eliminating or reducing the volume of all-deck announcements (apart from mandatory safety drills), or music from open decks;
- running on minimum necessary generator/engine power.

Overnight berthing

The EPA notes that the EA does not discuss in detail, circumstances when a ship may need to remain berthed for part or all of the night time period and the proposed strategy in communicating this to affected residences.

The EPA recommends that should approval be granted, the proponent consider the development of a formal communication protocol in the event of ships needing to remain at berth over part or all of a night.

Predicted noise levels exceed the sleep disturbance screening criteria for transit of ships to wharf during the night time half hour before 7am. Should this be a likely occurrence, the EPA recommends a more detailed analysis of sleep disturbance be undertaken as required by the NSW Industrial Noise Policy.

Water Quality

Trigger Values Response Levels

Plume modelling indicates that dredging is unlikely to increase Total Suspended Solid (TSS) concentrations by more than 5mg/L at the proposed monitoring sites. The EPA notes that the proposed level 1, 2, and 3 trigger response levels are greater than the predicted 5mg/L (daily mean TSS concentration >10, 15 and 25 mg/L respectively) and therefore do not reflect the expected performance of the dredging operation with regard to the dredge plume. Further to this, it is unclear how the ambient TSS concentration will be determined. The EPA notes that a field data collection program was commenced in September 2016 which will provide data for calibration and validation of a detailed dredge plume assessment.

The EPA understands that continuous turbidity monitoring will form the basis for tracking performance against the trigger levels. As the trigger response levels are defined as TSS concentrations, the EPA recommends the proponent derive a correlation between TSS and turbidity.

The EPA recommends that the proponent adjust the trigger response levels to reflect the expected performance of the dredging operation within a finalised baseline water quality monitoring program (having regard for the results of current field data collection program and detailed dredge plume assessment).

The EPA recommends that as part of a finalised baseline water quality monitoring program, the proponent detail how the correlation between turbidity and TSS was derived using data representative of conditions in the vicinity of the proposed development.

The EPA recommends that as part of a finalised baseline water quality monitoring program, the proponent clarify how ambient TSS concentrations will be determined (such as by real-time monitoring at a 'reference' site that is unlikely to be affected by the dredging).

Monitoring frequency and sensor maintenance

The EIS proposes that management responses would be triggered where daily average TSS concentrations exceed trigger response levels. The EPA advises that this approach may not allow for management responses to be implemented within an appropriate timeframe. The EIS states – "*Triggers based on short term consecutive readings (e.g. 5 x 15 minutes) are not recommended when monitoring in real-time as the risk of a false exceedance is very high. A false exceedance is commonly caused by abnormal fouling on sensor, drift algae covering sensor, fish or other biota obstructing sensor.*"

The EPA recommends that the proponent propose trigger response levels based on short term consecutive readings, and that the finalised baseline water quality monitoring program implement a sensor maintenance program to ensure turbidity data is representative.

Air Quality

The EPA notes that the EIS assessment modelled potential exceedances of air quality impact assessment criteria where 2.7% sulfur and to a lesser extent 0.5% sulfur is used. The EPA advises that the Commonwealth is currently moving to legislate a limit on the sulfur content of fuel used by cruise ships berthed in Sydney harbour to 0.1%, via the *Navigation Act (2012).* The EIS modelling predicted that if this fuel is used by ships at Eden, maximum ground level concentrations are less than impact assessment criteria. Reasonable and feasible mitigation measures are therefore available and the EPA supports the proponents proposed mitigation measures that cruise ships entering the port of Eden adopt low sulphur fuels to minimise potential air quality impacts.

The EPA notes that impacts associated with overnight visitation were not assessed.

While overnight visitation is not proposed the EPA recommends, should approval be granted, the proponent develop a protocol for the management of air emissions in the event that a ship un-expectantly is required to berth for part or all of the night.