



***MODIFICATION REQUEST:
Bulk Liquids Berth 2
Port Botany
(07_0061 MOD 1)***

Description of Modification Request

The deletion of condition 2.7 of the Project Approval, in order to allow pile driving activities to occur between 8.00am to 1.00pm on Saturdays.

Director-General's
Environmental Assessment Report
Section 75W of the
Environmental Planning and Assessment Act 1979

April 2011

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EXECUTIVE SUMMARY

Vopak Terminals Sydney Pty Ltd, acting on behalf of the Sydney Ports Corporation, received project approval to construct and operate a second bulk liquids berth adjacent to the existing bulk liquids berth at Port Botany, on 20 March 2008.

During its assessment, the Department did not consider that the Proponent adequately addressed the potential impacts from piling activities on the surrounding noise environment. Accordingly, the Department included a condition of approval limiting audible piling activities to standard construction hours during weekdays, and that no driven piles be permitted unless otherwise agreed by the Director-General.

During the design development phase, the Proponent determined that spun (screw) piles could not be used and that all forms of piling would likely require driving to some extent in order to achieve the required capacities and piling foundation depths.

In December 2010, the Department approved the use of driven piles during standard weekday construction hours. The Proponent subsequently submitted a modification request on 14 March 2011, requesting the deletion of condition 2.7 in order to allow pile driving activities to also occur on Saturdays between 8.00am and 1.00pm.

The Department has considered the information provided in relation to the expected noise impacts of pile driving activities and considers that through the application of appropriate management and mitigation measures, the noise and vibration impacts associated with driven piling would be generally acceptable. The Department therefore recommends the deletion of condition 2.7 to allow pile driving on Saturdays between 8.00am and 1.00pm.

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1. BACKGROUND

Vopak Terminals Sydney Pty Ltd, acting on behalf of Sydney Ports Corporation (SPC), has approval to construct and operate a second bulk liquids berth adjacent to the existing bulk liquids berth at Port Botany, as shown on Figures 1 and 2. The Bulk Liquids Berth 2 will be located in Botany Bay adjacent to the existing Bulk Liquids Berth 1, at the south-western end of Brotherson Dock, Port Botany. The then Minister for Planning approved the project under Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) on 20 March 2008.

The construction and operation of the project adjacent to the existing bulk liquids berth at Port Botany would comprise:

- a central working platform (measuring approximately 76 metres by 32 metres) and working area, with berthing face (including bollards and fenders) and pipe manifold/marine loading arm arrangements;
- adjacent berthing dolphins on each side of the working platform designed to accommodate the maximum length vessel;
- two mooring dolphins on each side of the working platform (four in total);
- walkways (catwalks) connecting the dolphins and working platform;
- an access bridge structure connecting the working platform with the shore, providing vehicle access and pipeline support structures;
- support infrastructure including fire control facilities (pumps, foam/water monitors and associated tanks), gatehouse and amenities (the need for a gatehouse is dependent on site security arrangement);
- berth fitout, including fire fighting monitors, services such as water, sewer, electrical and communications, amenities and blast proof operator shelter; and
- pipelines to user facilities including support and access structures such as pipe racks and culverts.

In its assessment of the project, the Department did not consider that the Proponent adequately addressed the potential impacts from piling activities associated with wharf structures on the surrounding noise environment. However, the Environmental Assessment indicated that piles would be bored into the seabed, rather than driven, which would result in reduced noise and vibration impacts. In this regard, the Department included a condition that audible piling activities be limited to standard construction hours and only permitted to occur on weekdays. The Department also included a condition restricting the use of driven piles unless otherwise agreed by the Director-General.

The final design of the project was completed in March 2010. The successful short-listed construction contractors have been selected to proceed to the Request for Tender Phase, which is currently being completed. Subject to the resolution of technical studies associated with the design and proposed construction methods, SPC is targeting project completion in late 2012.

During the design development phase, SPC determined that spun (screw) piles could not be used due to the depth of water, the loss of sand skin friction and the amount of torque required for installation. Investigation of other piling methods determined that

all forms of piling would likely require driving to some extent in order to achieve the required capacities and piling foundation depths. The Proponent determined that predicted impacts of piling are considered to be minor in nature and manageable with the implementation of appropriate mitigation measures and implementation of the Construction Noise Management Plan.

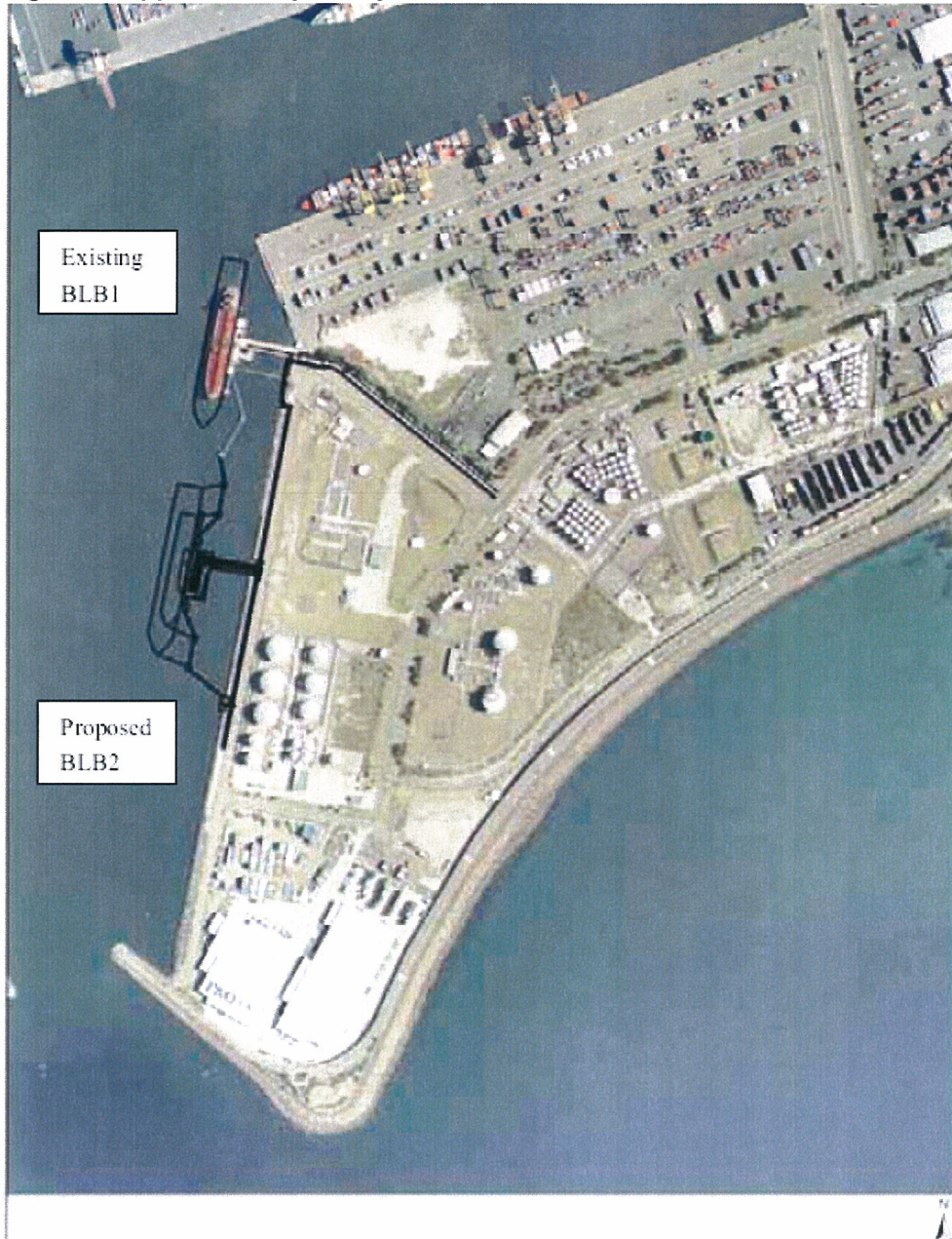
On 24 November 2010, SPC sought agreement from the Director-General to use driven piles for the construction of the Bulk Liquids Berth 2 in accordance with condition 2.8, and deletion of condition 2.7 to facilitate the change in piling construction methodology, including undertaking piling on weekends.

In December 2010, the Department approved the use of driven piles in accordance with condition 2.8, subject to the preparation and implementation of a Pile Vibration Management Plan and updating the Construction Noise Management Plan. The Department also advised that as the project approval specifically restricts audible piling activities to weekdays, the Department was unable to allow weekend works as requested by SPC, and therefore this matter would need to be considered as a modification under s75W of the EP&A Act.

Figure 1: Project Location



Figure 2: Approved Project Layout



2. PROPOSED MODIFICATION

2.1 Modification Description

SPC submitted a modification request on 14 March 2011 (attached in Appendix A), requesting the deletion of condition 2.7 of the Project Approval, which prohibits audible piling activities from occurring on the weekend or public holidays, in order to allow for pile driving to occur on Saturdays between 8.00am and 1.00pm as per condition 2.5.

SPC has stated that permitting audible piling activities on Saturdays between 8.00am and 1.00pm will shorten the duration of piling installation and therefore the overall construction period and construction costs, as well as shortening the duration of any noise impacts associated with pile driving.

3. STATUTORY CONTEXT

3.1 Modification of the Minister's Approval

Section 75W(2) of the EP&A Act provides that a Proponent can request the Minister to modify the approval of a project. The Minister's approval is not required if the project, as modified, will be consistent with the original approval. The subject modification is not consistent with the approval, but would not result in a radical transformation and therefore an assessment in accordance with Section 75W of the EP&A Act is considered appropriate.

3.2 Delegated Authority

On 25 January 2010, the then Minister for Planning delegated his powers and functions under section 75W of the EP&A Act to Directors in the Major Projects Assessment Division in cases where there are less than 10 public submissions (not including submissions from public authorities) in the nature of objections in respect of the modification request. As no public submissions were received, the Director may determine the modification request under delegated authority.

4. CONSULTATION AND SUBMISSIONS

4.1 Exhibition

In accordance with section 75X of the EP&A Act and clause 8G of the EP&A Regulation, the modification request was made available on the Department's website. Due to the minor nature of the proposed modification, the modification request was not exhibited by any other means. No public submissions were received on the modification request.

4.2 Consultation

The modification request was referred to the Office of Environment and Heritage (previously Department of Environment, Climate Change and Water), Randwick City Council, and City of Botany Bay Council.

The Office of Environment and Heritage supports the modification of condition 2.7, in accordance with the *Interim Construction Noise Guideline (DECC, 2009)*, which allows construction activities on Saturdays between 8.00am and 1.00pm.

Randwick City Council raised an objection to additional pile driving on Saturdays, as noise impact from pile driving was considered to be a substantial imposition on the weekend amenity of nearby residents, especially where there is potential to exceed the approved construction noise levels. Should the modification be approved, Council has asked that a number of matters be taken into consideration, including consideration of all other options; an option to modify condition 2.7 rather than deleting altogether; implementing a short trial period; genuine noise reduction at the source to be considered prior to respite periods; and the establishment of a complaints telephone line.

City of Botany Bay Council was satisfied that noise levels, for its residents, will be within prescribed limits for the project for Saturday's 8.00am to 1.00pm period. However, Council does not consider that there is enough information to indicate

compliance with noise limits on Sundays and Public Holidays, and therefore piling activities should not be allowed to be conducted on Sundays and public holidays. Additionally, no mention was made of issues in relation to vibration occurring from the piling activities. Further information was requested in regard to vibration mitigation strategies to be provided for the project.

5. ASSESSMENT

5.1 Construction noise

Due to the proposed change in construction methodology to driven piles, the Proponent prepared a revised construction noise assessment report. This assessment was prepared in accordance with the *Environmental Noise Control Manual* (EPA, 1994), which states that the L_{A10} noise level for construction periods of greater than 26 weeks should not exceed a level of 5 dBA above background levels. This is also consistent with the construction noise assessment undertaken as part of the Environmental Assessment for the project.

The results of the revised construction noise assessment indicate that the worst construction noise levels would comply with the construction noise criteria at all locations with the exception of a 3dBA exceedence at the closest receiver at 21 Elaroo Avenue, La Perouse, approximately 1700m away.

Whilst the original approval was assessed under the *Environmental Noise Control Manual*, the current *Interim Construction Noise Guideline* 2009, allows a noise management level, $L_{Aeq(15minute)}$, of background plus 10 dBA to be applied during construction. The Department therefore considers that an exceedence of 3 dBA based on a criteria of background plus 5dBA is not significant, and notes that noise exceedences are not unusual for infrastructure projects. It is also noted that the *Interim Construction Noise Guideline* defines standard construction hours to include Saturdays between 8.00am and 1.00pm.

The Office of Environment and Heritage acknowledges that the original approval was assessed under the *Environmental Noise Control Manual* 1994, but that the current guidelines recommends construction activities to be limited on Saturdays between 8.00am and 1.00pm.

Additionally, the noise assessment has recommended that construction monitoring should be undertaken to confirm the noise predictions during the initial stages of piling construction, and that if there are exceedences at sensitive receiver locations, additional mitigation measures should be implemented. The Department agrees with this approach and notes that the existing approval requires the preparation of a Construction Noise Management Plan, which is required to include clear commitments in relation to the duration of driven piling activities, the provision of respite periods, and mitigation measures in response to noise criteria exceedences. The Plan is also required to outline procedures for notifying residents of construction activities that are likely to effect their noise and vibration amenity, as well as procedures for dealing with and responding to noise complaints.

Both Randwick and City of Botany Bay Councils raised concern with regards to pile driving activities conducted on weekends. The existing project approval specifically

restricts construction hours to weekdays and 8.00am to 1.00pm on Saturdays only and the proposed modification would not alter these hours. Any works outside these standard hours would be subject to further comprehensive assessment and Director-General approval in accordance with condition 2.6.

5.2 Construction vibration

Pile driving has the potential to cause vibration impacts which could affect the integrity of the underground Elgas LPG storage facility which is located nearby.

The Proponent's modification request does not include any detail regarding vibration impacts from piling activities, however the Proponent's previous correspondence, dated 24 November 2010 requesting the Director-General's approval to use driven piles, included an assessment of vibration impacts.

The vibration assessment indicated that the highest peak particle velocity expected from pile driving activities would be 0.2 mm/second which is well below the limit nominated by Elgas of 1.0 mm/second (and an upper value of 3.0 mm/second).

The Director-General's approval to use driven piles included the requirement for a Pile Vibration Management Plan to be prepared in consultation with Elgas and to include management measures to control vibration to acceptable limits, and to be incorporated into the Construction Environmental Management Plan. The Department considers these requirements adequate to manage any additional impacts as a result of Saturday pile driving works.

6. CONCLUSION AND RECOMMENDATIONS

The Proponent requested condition 2.7 of the Project Approval, which prohibits audible piling activities from occurring on the weekend or public holidays, be deleted, in order to allow for pile driving to occur on Saturdays between 8.00am and 1.00pm as per condition 2.5.

In considering the Proponent's request, the Department reviewed the documents submitted with the modification request, and documents previously submitted with the Proponent's initial request to use driven piles in accordance with condition 2.8. These documents included a revised construction noise assessment and an assessment of vibration impacts. The Department also took into consideration correspondence received from Randwick City Council, City of Botany Bay Council, and the Office of Environment and Heritage.

The Department has considered the information provided in relation to the expected noise impacts of pile driving activities and considers that subject to appropriate management and mitigation measures, the noise and vibration impacts associated with driven piling would be generally acceptable.

The Department notes that permitting pile driving works on Saturdays in accordance with condition 2.5 will shorten the duration of piling installation and therefore the overall construction period, which in turn will shorten the duration of any noise impacts associated with pile driving.

The Department therefore recommends the deletion of condition 2.7 to allow pile driving on Saturdays between 8.00am and 1.00pm.

Prepared by



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APPENDIX A MODIFICATION REQUEST

See the Department's website at

http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=4636.

APPENDIX B RECOMMENDED MODIFYING INSTRUMENT

Modification of Minister's Approval

Section 75W of the *Environmental Planning & Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 25 January 2010, I approve the modification of the project application referred to in schedule 1, subject to the conditions in schedule 2.


Director
Infrastructure Projects

Sydney 28 April

2011

SCHEDULE 1

Project Approval:

07_0061 granted by the Minister for Planning on 20 March 2008

For the following:

The construction and operation of a second bulk liquids berth facility adjacent to the existing bulk liquids berth at Port Botany comprising:

- a central working platform (measuring approximately 76 metres by 32 metres) and working area, with berthing face (including bollards and fenders) and pipe manifold/marine loading arm arrangements;
- adjacent berthing dolphins on each side of the working platform designed to accommodate the maximum length vessel;
- two mooring dolphins on each side of the working platform (four in total);
- walkways (catwalks) connecting the dolphins and working platform;
- an access bridge structure connecting the working platform with the shore, providing vehicle access and pipeline support structures;
- support infrastructure including fire control facilities (pumps, foam/water monitors and associated tanks), gatehouse and amenities (the need for a gatehouse is dependent on site security arrangement);
- berth fitout, including fire fighting monitors, services such as water, sewer, electrical and communications, amenities and blast proof operator shelter; and
- pipelines to user facilities including support and access structures such as pipe racks and culverts.

Modification:

07_0061 MOD 1: deletion of condition 2.7 to allow pile driving activities on Saturdays in accordance with condition 2.5.

SCHEDULE 2

CONDITIONS

This approval is modified by:

1. deleting condition 2.7.