Appendix A

Submissions

Our reference: LIC06/45-31:DOC13/7129:CP
Contact: Craig Patterson (02) 4224 4100

Department of Planning and Infrastructure
(Attention: David White)
GPO Box 39
SYDNEY NSW 2001

Dear Mr White

EXHIBITION OF ENVIRONMENTAL IMPACT STATEMENT (SSD_5353)
CALTEX KURNELL PORT AND BERTHING FACILITY PROJECT, BOTANY BAY

I am writing in response to the above State Significant Development and the exhibition of the Development Application and Environmental Impact Statement (EIS) from 28 February to 5 April 2013.

The Environment Protection Authority (EPA) has reviewed the proposal and has no objection to the proposal proceeding as described in the EIS subject to the comments outline in this letter and attachment.

In assessing the proposal EPA identified a number of broader environmental issues that Department of Planning and Infrastructure (DP&I) should consider and clarify in its overall assessment of the application. These issues are included in **Attachment A** and include the following:

1. Environment Protection Licence
2. Project Description
3. Spoil and Contamination
4. Water and Sediment Quality
5. Noise
6. Environmental Management Plans

EPA attended a meeting with Caltex Refineries (NSW) Pty Ltd ("Caltex") on 18 March 2013 to discuss the majority of the issues identified in Attachment A. Some additional information was provided to Caltex following this meeting to assist the Company in developing its response for the Submissions Report.

EPA would appreciate receiving a copy of Caltex's response to the submissions to ensure that EPA issues have been adequately addressed. EPA also requests an opportunity to review the draft Conditions of Consent for the proposal prior to finalisation, to ensure there are no consistency issues with any future licences for the project.

Should you have any further enquiries, please contact the officer above.

Yours sincerely

10/4/13.

for **WILLIAM DOVE**
A/ Manager Illawarra
Environment Protection Authority

Att:

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ATTACHMENT A

ENVIRONMENT PROTECTION AUTHORITY COMMENTS ON EXHIBITED ENVIRONMENTAL IMPACT STATEMENT

Environment Protection Licence

- Caltex has indicated that it will apply for a non-scheduled activity licence under the *Protection of the Environment and Operations (POEO) Act 1997* for the purposes of regulating water pollution for the dredging activities.
- Should project approval be granted, Caltex will need to make a separate application to EPA to obtain this Licence prior to the dredging operations commencing.
- The conditions of the licence will be developed upon submission of the licence application form by Caltex. The Licence will need to take into consideration the information that will be provided as part of the Construction Environmental Management Plan and Dredging and Spoil Disposal Management Plan and associated sub plans. The conditions of the licence will be developed in consultation with Caltex and will likely involve the requirement to undertake water quality and noise monitoring at various locations in Botany Bay and the Kurnell area.

Project Description

- Section 4.4.4 of the Environmental Impact Statement states that for the Dredging Program there will be two rotational crews each working 12-hour shifts. Section 4.9.7 however states that crews would be working in three 8-hour shifts. Caltex should clarify this issue as more shifts may result in more frequent traffic movements to and from the site which may result in additional noise impacts.
- Figure 4-6 shows the location of the Former Anchor Hole which will be filled with clean material during the dredging operations. Figure 1-1 shows a Former Anchor Point which is in a different location to Figure 4-6. It is unclear from the EIS whether these two points are the same or whether they are two separate reference points. Caltex should clarify this issue as Figure 1-1 has been included in a Caltex Community Information Leaflet in February 2013.
- Section 4.7 outlines the specific environmental control measures that would be required to undertake the proposed works. Pages 4 to 35 describes a number of controls in relation to spill management and states that during an accident or emergency situation, operations would cease immediately with the requirement for the works' contractors to undertake any required repairs, modify their working methods and report the incident. EPA recommends that these requirements also require contractors to implement clean up and/or containment measures in the event of a spill to minimise any potential environmental impacts.
- Section 4.9.1 details the overall work schedule and states that the proposed works would commence in the second quarter of 2013. This does not appear to be consistent with Table 4-4. Whilst EPA understands that Table 4-4 includes only the construction aspect of the works, Caltex should clarify what works will commence in the second quarter.
- Table 4-4 indicates that the rock revetment works and sheet piling works will take seven weeks to complete. Page ES-7 of the Executive Summary states that these works will take 19 weeks. Given that these works will potentially be noisy, Caltex should clarify the actual duration of the works and ensure any associated noise impacts have been assessed.

Spoil and Contamination

- The values provided for Tributyltin (TBT) normalised for the Fixed Berths in Table 9.3 are lower than the values provided in Table 3.2 of Appendix D1 and Table 1 in Appendix D2. The later two tables also contain different values. The values in all three tables will need to be reviewed and updated to reflect the correct values. These values are important as Table 1 of Appendix D2 shows an exceedance of the ISGQ-high threshold where as the other two tables do not. Caltex will also need to provide an explanation as to why these values were different and whether the corrected values affect the conclusions of the assessment.
- The values provided for the elutriate TBT results for the Fixed Berths in Table 9.4 are lower than the values provided in Table 3.3 of Appendix D1. Caltex should provide a similar review of these values as required for Table 9.3 above.
- In addition to the TBT values, the values provided in Table 1 in Appendix D2 for Total Organic Carbon, Arsenic and Vanadium are different to the values provided in Table 3.2 in Appendix D1. Caltex should review the values in the Table and provide the correct values. Caltex should also advise whether the corrected values affect the conclusions of the assessment.

- The last column of Table 9 in Appendix D2 is cut off. Caltex should provide a complete copy of this Table.
- Section 9.5.5 (Page 9-12) of the EIS states that in the southern parts of the fixed berths, the central part of the sub berth, the northern end of the turning circle and the southern part of the approach channel sediment has been shown to contain highly elevated concentrations of TBT. Section 4.4.6 then states that overflow dredging would not be permitted within the fixed berths and in front of the sub berth due to the presence of contaminated sediments. It is unclear why overflow dredging would not be restricted in the other contaminated areas identified 9.5.5. Caltex should provide further explanation around this issue.

Water and Sediment Quality

- It is recognised that the project will remove TBT contaminated sediments to prevent its current and potential redistribution around the Bay due to marine processes and ship movements. However, during dredging, no significant pollution is permitted to occur within a short distance of the operation of the dredge head and split hopper barges. The aim of the project should be to fully minimise the dispersal of TBT around the Bay and minimise TBT being dissolved into the water column, rather than base the decision on acceptable levels of accumulation in other areas. These areas (which have not been tested) may already be affected by TBT from shipping movement over the TBT contaminated areas and additional TBT deposition could lead to an exceedance of the sediment quality guidelines. Further information is requested on the practical measures that could be taken to further mitigate the dispersal of TBT affected sediments and generation of dissolved sediments in the water column.
- The proposal to not use overflow dredging in areas with highly elevated TBT and the fixed berths is supported. However, due to the nature of TBT impacts at very low concentration, further restrictions on overflow dredging should be defined. It is recommended that overflow dredging should only occur in areas uncontaminated by TBT based on ANZECC 2000 sediment quality guidelines (ISQG-low). If overflow dredging is proposed on sediment with levels above the ANZECC (2000) sediment quality low guideline, then further information is requested on the likely concentration of TBT in the water column in the initial (near field) mixing zone of the proposed overflow dredging. ANZECC (2000) water quality guidelines for TBT will need to be achieved at the edge of an initial (near-field) mixing zone during any overflow dredging.
- It is also recommended that further options are assessed to:
  - capture sediment that would otherwise fall into the water across slewing zones
  - use any bucket head options or dredging procedures that minimise the amount of water removed (for example, "clamshell" bucket if different to the currently proposed "closed" bucket)
  - further mitigate TBT and fine sediment dispersal using modified dredging methods, including the method and rate of operating the dredge head and use of outgoing tides
  - use silt curtains around barges used for the proposed local reuse of uncontaminated sediment within the Bay, prior to opening the hopper; and
  - deploy silt curtains around any non dredging activities that may generate sediment including sheet piling activities in the berth works.
- Section 10.4.5 states that modelling the dispersion and deposition of sediment has involved the assessment of three simulation scenarios representing dredging the fixed berths, sub berth and the approaches. However modelling scenario locations provided in Figure 10-1 do not appear to cover the sub berth location. Caltex should clarify this matter.
- Section 10.6.3 (Page 10-16) states that "*It is predicted that only above 15mm of deposition (largely within the dredge footprint, see Figure 10-3) would there be an exceedance of the ISQG-low threshold limit*". The sediment deposition scale provided in Figure 10-3 does not clearly demonstrate that above 15mm of deposition is largely within the dredge footprint. Figure 10-3 should be revised to reflect the value provided in Table 10-3 so it is clear that the predicted deposition would not result in a sediment bound TBT concentration of less than 5ugSn/kg outside the project site, particularly near the Kurnell Wharf, aquaculture site and Kamay Botany Bay National Park.
- Figures 7.1 to 7.6 of Appendix C show the dispersion of the mean elutriate Tributyltin (TBT) concentrations from each of the dredged areas using the 95 percentile. The plots assume the maximum elutriate TBT concentration being produced at the sea bed and through overflow operations. All of the Figures show no concentration of TBT despite page 10-18 of the EIS stating that "*The elutriate tests conducted on sediments confirm their potential to generate TBT at concentrations exceeding the threshold limits for water quality in Table 10-1*". Caltex should review the Figure provided in Appendix C and provide an explanation for this discrepancy. If it is determined that the Figure provided are incorrect then a new set of Figures should be developed.

- Sections 10.7.3 and 10.7.4 of the EIS describes the water quality monitoring that will be undertaken to verify the results of the modelling and that will form part of a Sediment and Water Quality Monitoring Program. Caltex has proposed to undertake pH and dissolved oxygen (DO) monitoring in parallel to turbidity monitoring at the limit of the project site. It has been proposed that turbidity monitoring will also be conducted within the aquaculture lease area and at a number of locations within the limits and extent of the seagrass beds close to the project site. The EIS does not mention whether pH and DO will also be monitored at these locations. EPA recommends that pH and DO monitoring be undertaken at the same locations as turbidity.

Noise

- Construction Noise Scenarios 5, 7 and 8 listed in Table 13-1 of the EIS includes additional activities (rock pile (Scenario 5 & 7) and mobile crane (Scenario 8)) to what was modelled in Table 7-3 of Appendix G. The additional activities have the potential to increase the predicted noise levels from the each of these scenarios. Caltex should clarify whether the additional activities will significantly increase the predicted noise levels when these works are being carried out and whether the construction activities still comply with the project specific noise criteria.
- Table 7-2 of Appendix G does not include noise levels for all the identified noise sources/activities identified in the eight construction noise scenarios. The activities that are missing include rig power pack, water jet pump, rock pile and auxiliary boats. It is unclear from the information provided whether the noise levels of these activities have been included in the noise model predictions. It is also unclear whether the predicted noise levels for each noise scenario include all the activities listed. Should it be determined that the predicted noise levels for each scenario do not include the missing activities then the predicted noise levels may have been under estimated. Caltex should clarify this issue to demonstrate that the noise model has included all specified activities and their associated noise levels and that the predicted noise levels for each scenario are correct.
- Table 13-4 identifies the noise management criteria applicable to each sensitive receptor. Kamay Botany Bay National Park has been classed as an Active Recreation Area which is subject to a higher noise criteria than a Passive Recreation Area. Based on the definitions of Active and Passive Recreation Areas provided in Table 13-3, Kamay Botany Bay National Park should be classified as a Passive Recreation Area and be subject to the lower noise criteria. Based on the predicted construction noise levels provided in Tables 13-5 and 13-6, the lower noise criteria is still complied with.
- Section 13.7.1 outlines the noise mitigation measures proposed for the works. On Page 13-22 under General Noise Management it states that for works taking place outside standard working hours, monthly attended noise monitoring would be undertaken to verify levels along Prince Charles Parade. Draft EIS made reference to monitoring at Rangers House. There is no reference to Rangers House in the final EIS. Notwithstanding this, EPA recommends that Caltex undertake attended noise monitoring at both Prince Charles Parade and Rangers House to verify noise levels at these locations.
- Noise Mitigation Measure 4 on Page 13-24 (and G4 in Chapter 19) includes a Noise Monitoring Program that can be used to demonstrate exceedences are limited to 3dB(A). It also states that contingency actions would be taken if noise emissions were found to be approaching or exceeding 3dB(A). EPA does not agree with this mitigation measure as it is not acceptable to implement contingency actions after noise criteria have been exceeded. Any identified mitigation measures and contingency actions should be implemented at all times to minimise the generation of noise to the maximum extent practicable. Noise levels approaching the project specific noise criteria should be used as a guide to determine when additional mitigation measures may need to be implemented. Caltex should review this mitigation and management measure to reflect these comments.
- The following requirements for hours of construction should be considered when developing conditions of approval.
    - All construction works (excluding dredging and sub berth upgrade works) must be undertaken between the hours of 7:00am to 6:00pm Monday to Friday and Saturday 8:00am to 1:00pm, with no construction activity on Sundays and Public Holidays unless inaudible at any residential premises. The sub berth upgrade works may be undertaken between the additional hours of 1:00pm and 6:00pm on Saturday afternoons and 8:00am and 6:00pm Sundays.
    - Dredging works (including the emplacement of spoil and associated activities) may be undertaken continuously for approximately 23 weeks.
    - Appropriate respite periods should be implemented to address any noise complaint(s) associated with any construction noise (including piling and rock revetment activities) and any loud construction works.
    - The above construction hours would not apply to the delivery of material outside the hours of operation, if that delivery is required by police or other authorities for safety reasons; and/or the

operation or personnel or equipment are endangered. In such circumstances, prior notification must be provided to the Department of Planning and Infrastructure (DPI) and affected residents as soon as possible or within a reasonable period in the case of emergency.

Environmental Management Plans

- Section 19 of the EIS outlines the preparation and development of a Construction Environmental Management Plan (CEMP) and a Dredging and Spoil Disposal Management Plan (DSDMP) to manage the proposed works. A number of sub plans have also been identified including but not limited to:
  - Spill Control Plan
  - Sediment and Water Quality Monitoring Program
  - Noise Management Plan
  - Port Operating Procedure and Marine Works Management Plan; and
  - Waste and Resource Management Plan.
- All Management Plans should be completed prior to the commencement of construction activities. Appropriate procedures should also be developed for reviewing and improving the requirements of each plan where considered necessary over the life of the proposed works.
- In addition to the Plans listed in the EIS, EPA recommends that the proponent also develop a Community Consultation Plan (CCP) as a sub plan to the CEMP. The CCP shall include, but not necessarily be limited to:
  (a) procedures for consulting and notifying nearby residents of the commencement of the construction activities. This should included procedures for providing written notification to residents and include notification to the Kurnell Progress and Precinct Committee
  (b) procedures for consulting and notifying nearby residents at appropriate stages throughout the construction activities of any specific works that may result in potential noise impacts
  (c) details of a telephone complaints line (including a daytime and an after hours contact phone number) for the purposes of receiving any complaints or enquiries from members of the public in relation to the construction activities
  (d) contact details of relevant site persons responsible for following up complaints
  (e) procedures for handling and monitoring all complaints received by the proponent; and
  (f) details of proposed contingency measures to be implemented where complaints are received.
- The CCP should be developed in consultation with EPA's Interim Construction Noise Guidelines and ensure that appropriate noise management tools including community engagement have been duly considered.
- The Sediment and Water Quality Monitoring Program should be developed in consultation with EPA and include a Monitoring Program for baseline and ongoing water quality and ecological health assessments. A key requirement of this Plan will be clearly defining the locations where overflow dredging may be permitted and how the dredging operations will be controlled and monitored to minimise the dispersal of sediments and TBT within the waters of Botany Bay. Appropriate management controls should be detailed in the program including limiting or temporarily suspending overflow dredging and controlling the spill rate. Overflow dredging must not occur in areas where the sediment has been shown to contain highly elevated concentrations of TBT.
- The Noise Management Plan should be developed in consultation with EPA to address potential noise impacts associated with the construction activity. The Plan should include the recommended feasible and reasonable noise mitigation measures listed in the Noise Impact Assessment and detail the proposed performance evaluation procedures (including noise monitoring) to assess the effectiveness of these measures and any potential impacts on sensitive receptors.

NSW GOVERNMENT | Department of Primary Industries

OUT13/9696

24 APR 2013

Mr David White
Infrastructure Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

David.White@planning.nsw.gov.au

Dear Mr White,

Kurnell Port and Berthing Facility (Port Botany) (SSD_5353)
Response to exhibition of Environmental Impact Statement (EIS)

I refer to your letter dated 26 February 2013 requesting advice from the Department of Primary Industries (DPI) in respect to the above matter.

Comment by NSW Office of Water
The NSW Office of Water advises it has no further comment on this application, other than to clarify that the comment that the proposed works should give greater consideration to the reuse of dredged material (Table 6-5 in the EIS (under 'Water and Sediment Quality'), page 6-10) was raised by Crown Lands and not the Office of Water.

For further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on 4729 8262, or at: Janne.Grose@water.nsw.gov.au.

Comment by Fisheries NSW
Detailed advice by Fisheries NSW is given in Attachment A.

For further information please contact Carla Ganassin, Conservation Manager (Wollongong office) on 4254 5527, or at: carla.ganassin@dpi.nsw.gov.au.

Yours sincerely

Phil Anquetil
Executive Director Business Services

NSW Department of Primary Industries
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Attachment A

Kurnell Port and Berthing Facility (Port Botany) (SSD_5353)

Response to exhibition of the Environmental Impact Statement (EIS)

Comment by Fisheries NSW

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this Fisheries NSW ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A, respectively, of that Act) and the associated *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (1999).* In addition, Fisheries NSW is responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture and marine protected areas within NSW.

In consideration of these provisions and policies, Fisheries NSW advises as follows:

1. The proposal is likely to result in elevated turbidity levels around the project site for a period of 23 weeks. While the resulting increased sedimentation on the habitats within Botany Bay has been assessed in the EIS, there is little consideration of the impact of reduced light penetration on key aquatic habitats, such as seagrasses, and fish communities. Fisheries NSW notes that the timing of the proposed works are likely to coincide with the main season for seagrass growth and juvenile fish recruitment within Botany Bay (i.e. the spring-summer period). As the growth rate of part of the Endangered Population of *Posidonia australis* seagrass in Botany Bay is likely to be adversely impacted by reduced light levels and there is likely to be potential localised, but unknown, impacts on fish populations, it is recommended:
   (a) options to further minimise turbidity from "overflow dredging" be investigated. This could include measures to release the overflow from the split hopper barges lower into the water column (i.e. approximately 10m below the surface) so that sediment can settle more rapidly. It is not known if this is possible, but perhaps measures to achieve this are to discharge overflow via a pipe or installing sediment curtains around the split hopper barges, either fully or partially through the water depth.
   (b) the Endangered Population of *Posidonia australis* seagrass that has been identified in the EIS as falling under the extended footprint of impact of the proposed works is monitored for signs of decline during the dredging event. Should this become evident then this should trigger a reduction or avoidance of overflow dredging. *Posidonia* seagrass is suited to such monitoring as it is a slow-growing relatively stable species that does not naturally fluctuate in extent.
   (c) the management measure not to undertake "overflow dredging" within fixed berthing areas (p.4-9 of the EIS) be supported. However, to further avoid impacts to nearby seagrasses, dredging works within the fixed berthing areas should also, if at all possible, be staged to avoid the spring-summer seagrass growth season.

   Fisheries NSW acknowledges that the whole of Botany Bay can frequently experience considerable increased turbidity levels during extended periods of rainfall for some time and that the existing aquatic ecosystem responds and adjusts accordingly. However, if it is possible to further reduce additional turbidity related impacts from this relatively long-term human-induced pulse event, then Fisheries NSW recommends that such measures be employed. The preference of Fisheries NSW is that turbidity from this dredging event does not impact nearby seagrass beds.

2. Fisheries NSW is aware that the proposed works are occurring within an area that is considerably contaminated with Tributyltin compounds (TBT). Fisheries NSW is particularly concerned about potential impacts on adult and juvenile fish and other aquatic species from re-suspended TBT, particularly within and in the immediate vicinity of the project site. It appears from the EIS that such impacts are not likely to significantly affect aquatic life within this area. However, advice and appropriate recommendations from the Government agency with relevant expertise and jurisdiction over this matter should be sought.

3. The EIS suggests that the hard rock armoured revetment around Fixed Berthing 1 will create additional artificial reef habitat. It would be more accurate to state that this will create additional hard rock substrate habitat within Botany Bay that with time will support species assemblages that are adapted to this environment. The 'artificial reef' structures installed on the northern side of Botany Bay by recreational fishers are composed of purpose-designed reef ball units with structural complexity (i.e. cavities) to specifically promote fish assemblages and create quality recreational fishing opportunities.

4. Fisheries NSW supports the proposed mitigation and management measures detailed in Chapter 19 of the EIS if they are implemented as proposed with the following amendments and additions. These measures will assist in minimising impacts to the aquatic environment:
   (a) when considering the proposed adaptive mitigation measures in response to monitoring it is important that the environmental manager responsible for these measures is independent and/or that there is some level of independent auditing of this process.
   (b) the live monitoring of turbidity levels needs to occur at several locations along the northern portion of the nearby seagrass bed. These sites need to include areas of the Endangered Population of *Posidonia australis* seagrass.
   (c) in regard to the monitoring of turbidity levels in Item D2, an accompanying mitigation measure needs to be included which states that at any time the stated turbidity levels are triggered, the overflow dredging works are to cease immediately and mitigated accordingly. As it is written, Item D4 seems to relate more to the monitoring of pH and Dissolved Oxygen (DO) rather than turbidity. Further, mitigation responses to turbidity should be triggered for any exceedance of the stated triggered levels, rather than the 'persistent exceedance' (i.e. 3 or more exceedances within a 24 hour period) as stated in Item D4.
   (d) the Endangered Population of *Posidonia australis* seagrass that has been identified as falling under the extended footprint of impact of the proposed works is to be monitored for signs of decline during the dredging event. Should this become evident then this should trigger a reduction or avoidance of overflow dredging.

5. Fisheries NSW request the opportunity to comment on any *Construction Environmental Management Plan* and *Dredging and Spoil Disposal Management Plan* prior to implementation.

6. Part of the modelled sediment deposition over seagrass areas falls in the area of seagrass habitat where active remediation research is currently occurring following the harm resulting from AusGrid's Energy Cable Laying Project. Fisheries NSW scientists have been alerted of this and have asked to be kept informed of when the dredging activity will occur. The Department of Planning and Infrastructure is hereby advised of this request, and it is also recommended that comment is also sought from AusGrid on this matter.

7. As the EIS notes, Botany Bay is a Recreational Fishing Haven. This was established in 2002, when recreational fishers invested $10 million, via recreational fishing licence fees, to

buy out commercial fishing effort in Botany Bay, and gain sole fishing rights within the Bay. Since then, the recreational fishing community has invested significant funds in improving recreational fishing opportunities and amenities within Botany Bay. Recreational fishing stakeholders have expressed ongoing concerns with potential impacts of the proposal on recreational fishing in the Bay, especially in relation to the size of the dredge footprint and disturbance caused by vessel movements. It is proposed that 0.1% of current recreational fishing grounds in this Recreational Fishing Haven will be lost to the Marine Security Zone to incorporate the expansion of Fixed Berth 1. The EIS states that this area is not regularly fished as it is close to the existing fixed berth. Fisheries NSW questions the validity of this assumption as no studies have been conducted to determine this. In fact, the 35m wide x 310m long area is in relatively safe protected waters close to the mouth of the Bay and is likely to be fished especially when ships are not berthed at the fixed berth. The preference for Fisheries NSW is that long term recreational fishing access is to be maintained to all fishable sites within this highly-valued Recreational Fishing Haven. As proposed within the EIS, Fisheries NSW recommends that negotiations with the recreational fishing community are progressed following this public exhibition of the EIS and that consideration be given towards possible forms of compensation or offsets for the reduction of fishable waters within Botany Bay from these upgrades.

8. Considering the popularity of Botany Bay with the recreational fishing and wider community and the exposure of the site to the general public, Fisheries NSW recommends that an effective public communications strategy and complaint-line is maintained during the dredging event. It is important that stakeholders are kept informed of when the dredging and spoil disposal activities are occurring, the mitigation measures being employed, and what impacts this will have on conducting their activities if any. Fisheries NSW also requests to be notified of such consultations, so that Fisheries NSW can ensure that recreational and commercial fisheries stakeholders and seagrass researchers are informed of the dredging event so that they can adjust their activities accordingly.

9. The proposed disposal of dredged spoil at the Sydney Offshore Dumping Ground is an activity that requires authorisation by the Federal Government. Commercial and recreational fishing stakeholders who fish in this area have expressed concern regarding the deposition of contaminated material at sea. Fisheries requests this matter be appropriately considered to ensure the deposited sediment does not have any significant impacts on marine ecosystems within and adjacent to the proposed dump site.

End Attachment A

NSW GOVERNMENT | Office of Environment & Heritage

PCU042962

Your reference: SSD-5353
Our reference: DOC13/7132
Contact: Deb Stevenson, 9995 6842

Ms Felicity Greenway
A/Director, Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Ms Greenway

I refer to your letter of 28 February 2013 seeking comment from the Office of Environment and Heritage (OEH) on the State Significant Development Application and Environmental Impact Statement (EIS) for the Kurnell Ports and Berthing Facility (SSD-5353).

OEH has reviewed the EIS against the recommendations in our letter to the Department of Planning and Infrastructure dated 21 November 2012, regarding the adequacy of the Environmental Assessment Scoping and Approvals Report and the need for additional information. OEH notes that most of the matters raised in our letter have been addressed in the EIS. Outlined below are some outstanding issues that should be taken into consideration in determining and, if approved, conditioning the proposal.

- the scope of the study area in the EIS has been extended to include consideration of sensitive areas on the northern and western sides of Botany Bay. As a result, the EIS has assessed the potential impacts of the proposal on a wider range of habitat types around the Bay. However, the study area was limited to the dredge site within Botany Bay and consequently the EIS does not fully consider the potential impacts on threatened pelagic species that use areas outside of the Bay (see below).

- no additional survey work was undertaken for the EIS. Instead, a number of threatened and migratory species were assumed to be present on the basis of a desktop assessment, this included species recommended for consideration by OEH. As a result, a broader range of threatened and migratory species were considered in the EIS. However, this desktop assessment was based on a 5km radius search around the dredge site only and did not cover the Sydney Offshore Spoil Ground sub-site or the area between the dredge site and the disposal site. There are numerous records for Humpback Whale in this area, because it is on their biannual migration route. OEH considers that additional shipping movements and sediment disposal associated with the project could potentially impact this species in various ways (e.g. ship strike and sediment plumes). Consequently, OEH recommends that specific measures to avoid or minimise these impacts be included in any Fauna Management Plan developed as part of a project approval.

- the EIS dismisses the importance of intertidal habitat along Silver Beach for shorebirds and migratory waders. As advised in an email from OEH to URS and Caltex (19th December 2012), monthly surveys by the NSW Wader Study Group are undertaken around Botany

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Bay which indicate that there are numerous records for Pied Oystercatcher and Little Tern, as well as some migratory waders, at this site. The potential impact of changes to the hydrodynamic processes at Silver Beach (see p 11-29 of the EIS) on this intertidal habitat should be addressed in more detail together with a description of any ameliorative measures that may be required.

- Chapter 11 and 19 of the EIS provide information on the measures proposed to mitigate and manage the impacts of the proposal, which will be detailed in various post-approval plans (e.g. Construction Environmental Management Plan, Fauna Management Plan, Dredging and Spoil Disposal Management Plan etc.). Most of the measures are fairly general and do not provide enough detail for OEH to be confident that they can effectively mitigate or manage potential direct and indirect impacts on threatened species or their habitat in Botany Bay or between Botany Bay and the Sydney Offshore Spoil Ground. Consequently, OEH recommends that any approval conditions specifically stipulate what must be addressed in each of these plans to ensure that they comprehensively cover all of the impacts of the proposal.

If you would like to discuss any of these comments in more detail, please contact Deb Stevenson on 9995 6842.

Yours sincerely

22/3/13

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F2013/00157

28 March 2013

David White
Kurnell Ports and Berthing Facility Submissions
Infrastructure Projects
NSW Department of Planning and infrastructure
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SYDNEY NSW 2001

Dear Mr White,

RE: KURNELL PORTS AND BERTHING FACILITY PROJECT – SSD_5353

Thank you for the opportunity to comment on the Kurnell Ports and Berthing Facility Project. Council has reviewed the Environmental Impact Statement and provides the following comments.

Impacts on Botany Bay
The key issues that Council wishes to raise concerns the potential impacts on the marine ecology of Botany Bay; specifically in relation to cumulative impacts with other major developments and impact on sensitive marine environments resulting from disturbance to sediment.

Damage to sea grass
This proposal appears to have the potential to cause further loss of seagrass areas which are notoriously vulnerable to sea floor dredging and disturbance. From an environmental perspective a great amount of seagrass habitat has already been lost in Botany Bay and the conservation of remaining areas of sea grasses is critical to the ecological health of Botany Bay.

The impacts of the current proposal need to be considered in conjunction with other works in the Bay including the Port Botany terminal 3 expansion and ongoing maintenance dredging of shipping channels, to adequately address cumulative impacts of the combined works on the remaining sea grass beds and their dependent ecological communities within Botany Bay.

Botany Bay has a complex pattern of currents and sand movement. Dredging to allow for the reconfiguration of the Kurnell berthing facility has the potential to have a significant impact on endangered *Posidonia australis* seagrass communities.

As the predicted impact zone is 250-270m distance from the dredging zone and the NSW Department of Primary Industries have identified *Posidonia* beds less than 250m from the site Council recommends that monitoring strategies be required to be undertaken before , during and after dredging is completed to accurately assess any actual impact on the sensitive marine environment.

To ensure the accuracy of and a precautionary approach in relation to the predictive modelling and to ensure any impacts on nearby *Posidonia* beds are minimised Council recommends Caltex be required undertake monthly monitoring of sediment transport and deposition during dredging works, as has been completed under the Port Botany expansion terminal 3 construction project.

In addition pre and post sea grass bed distribution mapping should also be completed to ascertain actual impact on sea grasses. Council also suggests that due to the unpredictable nature of modelling impacts on sea grasses that compensatory strategies for damage to sea grass should to be developed prior to commencement of works in the instance that sea grasses are damaged as part of these works.

Potential Spread of *Caulerpa taxifolia* aquatic weed

Colonies of the aquatic seaweed *Caulerpa taxifolia* have been found to be located within Botany Bay and these populations have been greatly increasing over the last four years. *Caulerpa taxifolia* can potentially smother seagrass beds and it easily regenerates from pieces that break off existing plants, and is difficult to eradicate.
NSW Government in conjunction with local Councils have been working together to minimise the spread of the aquatic weed by boat users in Botany Bay in an effort to contain and control the weed within the existing areas.

The Environmental Impact Statement states that the dredging will be managed to avoid spreading of aquatic weeds. As *Caulerpa taxifolia* currently poses a significant threat to the remaining valuable sea grass habitat within Botany Bay, Council requests that details of the "proposed measures" to prevent spread be made publicly available.

Distribution and Dispersal of contaminated sediment

The disturbance of the seabed during the course of dredging will disturb and potentially cause the dispersal of contaminated sediment. This sedimentation will not only significantly affect the fragile seagrasses in the bay but also the suspended material may impact upon aquatic fauna species.

Council has noted that although most identified sediment contaminants are below waste classification levels there are a number which exceed ANZECC environmental protection levels as indicated in Appendix D2 and these include Arsenic, Lead, Zinc and Mercury.

These proposed works may cause dispersal of this contaminated sediment into other uncontaminated areas of Botany Bay. This proposal needs to identify appropriate management regimes to minimise sediments dispersal during the dredging works. Further consideration of a floating or fixed silt curtains should be made as these have been extensively used in Botany Bay for a number of other infrastructure projects. These could be installed around the dredging barge encompassing its operations to assist in containing any plume which will occur as a result of the dredging operations.

Impact on protected marine species

The 'Steps' dive site, located off Kamay Botany Bay National Park to the south of the project site is reported to contain most number of Weedy sea dragons (*Phyllopteryx taeniolatus*) ever surveyed from one location. As Appendix E7 indicates that the project is "highly likely" to have an impact on protected Weedy sea dragon, Council recommends that mitigation strategies similar to those proposed by other major infrastructure projects that have occurred within Botany Bay must be provided to minimise these impacts.

Public interest
Due to the level of community concern regarding this project and the technical nature to the proposal documentation Council suggests that some more user friendly information on this project be made publicly available for any approval/implementation stages.

Thank you once again for the opportunity to comment, should you require any further information regarding this submission please contact Karen Armstrong, Manager - Strategic Planning 1on 9399 0992.

Yours sincerely

Sima Truuvert
Director – City Planning

Sutherland Shire COUNCIL

Ian Drinnan
File Ref: 772113170

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4-20 Eton Street, Sutherland
NSW 2232 Australia

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Locked Bag 17,
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Office Hours
8.30am to 4.30pm
Monday to Friday

2 April 2013

David White
Senior Planning Officer
Infrastructure Projects
Major Projects Assessment
NSW Department of Planning & Infrastructure
23-33 Bridge St
Sydney NSW 2000

Dear Mr White,

Kurnell Ports and Berthing Facility (SSD-5353)
[In response, please quote File Ref: 772113170]

In response to your request for comment on the proposed development at Kurnell, Council has undertaken a review of the Environmental Impact Assessment and associated documents. Following this review, Council provides the attached submission regarding the proposal.

Council thanks you for the opportunity to provide comment on the proposal and look forward to receiving your reply to the issues raised.

Should you need to discuss any aspect of this matter further, please do not hesitate to contact Council's Manager Environmental Science and Policy Unit Ian Drinnan on 9710 0547 during normal business hours.

Yours faithfully

Ian Drinnan
for J W Rayner
General Manager

SUBMISSION TO THE NSW DEPARTMENT OF PLANNING AND INFRASTRUCTURE ON THE:

KURNELL PORTS AND BERTHING FACILITY PROPOSAL

State Significant Development Application SSD-5353

March 2013

Summary

Sutherland Shire Council has concerns regarding the proposed development at the Kurnell Ports and Berthing Facility as detailed in the Environmental Impact Statement submitted in February 2013. It is Council's opinion that the potential impacts associated with such a proposal are numerous. Given the extent and nature of the works proposed, particularly the dredging component and the presence of significant environmental receptors within the locality, there is potential for adverse environmental impact associated with the proposal, particularly the potential for impacts upon sensitive environmental receptors as a result of the extensive dredging of Tributyltin (TBT) contaminated sediments. Of most concern is the extent of dredging, and any resultant impacts upon the marine environment as a direct result of dredging or from altered hydrodynamic processes within Botany Bay.

Whilst Council acknowledges the economic benefit of the proposal, it has concerns that the proposal has the potential for significant adverse impacts on the marine environment and recommends that the key components of the proposed dredging be reviewed by an independent expert with experience in the assessment and management of TBT contaminated marine sediments.

Council's Concerns

Sensitive Environmental Receptors

The proposed development site is located within close proximity to a number of significant and sensitive environmental receptors. Most notably these include the Towra Point Nature and Aquatic Reserves which contain wetlands of international significance listed under the RAMSAR convention. This area and the subtidal environmental immediately fronting Silver Beach contain extensive seagrass beds. Of note is the presence of large expanses of beds containing *Posidonia australis* which is listed as an Endangered Population under the NSW Fisheries Management Act 1994. Any proposal which has potential to impact upon these significant environmental areas is of concern to Council.

Tributyltin Contaminated Sediments

The identification of elevated levels above adopted guidelines of Tributyltin (TBT) within the sediments of the dredging footprint is of significant concern. Given the nature of the contaminant, and the potential for significant adverse ecological impact associated with its presence, Council is of the opinion that the NSW Department of Planning & Infrastructure (NSW DP&I) should require a suitably qualified professional to review the proposal and provide comments on its suitability and the potential impacts. This should be undertaken prior to any approval and be done by a suitably qualified professional with experience in the management of TBT contaminated sediment. Council suggests that any recommendations coming out of the independent review be incorporated as conditions of consent on any approval.

Altered Hydrodynamic Processes

The extent and degree dredging has the potential to alter the hydrodynamic processes which operate within Botany Bay. Given the extent of dredging proposed, the significant environmental receptors located in the vicinity of the proposal, and the major changes to the bay as a result of other major projects undertaken within the bay, there is potential for significant cumulative adverse environmental impact such as altered wave dynamics and wave patterns, scour and erosion, sediment transport, water quality and water circulation, amongst others. It is Council's opinion that this component of the proposal be reviewed in detail so as to avoid and or mitigate any predicted adverse impacts upon sensitive environmental receptors.

Increased Turbidity during Construction

Dredging will increase the sediment content of the water column resulting in increased turbidity during the dredging period. It is estimated that dredging will continue for a period of approximately 23 weeks. Modelling has indicated that the extent of sedimentation will not extend significantly beyond the disturbance footprint however will result in localised increases in sediment deposition on seagrass beds located off Silver Beach. There is no recommendation for the use of sedimentation controls (e.g. silt curtains), despite the results of modelling indicating impact. Council recommends that NSW DP&I enforce the

requirement for turbidity controls (e.g. heavy duty silt curtains) at all times when works are likely to disturb the seabed. The use of silt curtains to contain impacts associated with dredging activities was included on the approval for the supply pipeline to the Kurnell Desalinisation Plant, approved by the NSW DP&I in 2007 (as modified in 2008).

Sea Dumping Permit

As outlined in previous correspondence regarding the proposal, Council has concerns regarding the dependency on the disposal of the dredged sediments at the Sydney Offshore Disposal Ground which requires approval from the Australian Government under the Commonwealth *Environment Protection (Sea Dumping) Act.* It is Council's opinion that the required approval under the *Environment Protection (Sea Dumping) Act* be finalised prior to consenting to the proposal so that if permission is in fact not granted, an alternative method and its subsequent impacts can be assessed.

Monitoring and Management Plans

The EIS outlines that a number of monitoring and management plans will be prepared prior to works commencing. Given the extent of works, potential for significant adverse environmental impact and the proximity to particularly sensitive environmental receptors, it is Council's opinion that these monitoring and management plans be prepared and reviewed prior to approval of the application. The significance of the impacts depends on the management of the key issues and therefore the management actions should be detailed now and be subject to independent review.

Any monitoring program must be designed appropriately, both temporally and spatially, to identify changes resulting from the proposed works. Management actions required to address any issues identified as part of monitoring should also be included. They must also be achievable.

Contingency Planning

As outlined previously by Council, given the potential for significant adverse impacts associated with the proposal, contingency plans should be prepared and submitted for review. The aim of the plan(s) must be to address any realised changes resulting from the

proposed works. It is Council's opinion that this be prepared and submitted for review prior to approval of the proposal.

Precautionary Principle

Council believes that the precautionary principle must take precedence until the effects and impacts of the proposal are properly reviewed and with regard to avoiding and/or minimising the effects of such practices, recommendations of best practice are made available.

Conclusion

Sutherland Shire Council understands the importance of the provision of appropriate facilities for the operation of the Kurnell Oil Refinery and the economic benefits the facility creates for the Sutherland Shire. It is however concerned that the proposal has potential for significant environmental impacts upon sensitive receptors located within close proximity to the development site. Council recommends that additional information be prepared and submitted for review and any decision on the proposal be deferred until the issues identified within this submission are addressed. It is recommended that the NSW Department of Planning & Infrastructure require an independent expert with experience in the assessment and management of TBT laden marine sediment review the proposal and provide comments on the adequacy of the assessment and associated recommendations.

SYDNEY PORTS
FIRST PORT, FUTURE PORT

PCU043722

22 April 2013

Glenn Snow
Manager Rail and Ports
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Our Ref: C12/3953

Attn: David White

Dear Mr White,

RE: Kurnell Ports and Berthing Facility (SSD_5353) – Request for Comment

Thank you for providing Sydney Ports Corporation (Sydney Ports) on behalf of Port Botany Operations Pty Limited (PBOPL) with the opportunity to comment on the above proposal. Sydney Ports has reviewed the Environmental Impact Statement (the EIS) dated February 2013 and makes the below comments regarding hydrodynamic and coastal processes.

As you may be aware, approval for the Port Botany Expansion was granted on 13 October 2005 (DA-494-11-2003-i).The assessment undertaken found that there were likely to only be minimal hydrodynamic impacts as a result of the Port Botany Expansion project. Notwithstanding this, Sydney Ports committed to monitor the hydrodynamics of Botany Bay for a period of five years from the date of completion of the reclamation (i.e. commencing January 2010). The Department of Planning further confirmed this commitment through the imposition of the following condition regarding hydrodynamics and coastal processes:

> *B2.40 To ensure that any impacts of the development on hydrodynamics and coastal processes over time is understood, a monitoring program, as outlined in the EIS, is to be implemented which will include:*
> - *continuous recording of the wind and wave climate in Botany Bay and offshore;*
> - *beach profiling or aerial photographic record/photogrammetric analysis of Silver Beach, Towra Beach, Spit Island, Lady Robinsons Beach and nearshore shoals; and*
> - *ongoing assessment of the need for removal of accumulated sand at the groyne and any replenishment required at the new boat ramp.*

It is Sydney Ports' understanding that the above condition was imposed to confirm the results of the modelling undertaken as part of the Port Botany Expansion EIS based on the potential hydrodynamic impact of the Port Botany Expansion project which had found that wave climate, currents and wave swell energy would remain relatively unchanged across the Bay as a whole. Since undertaking the Port Botany Expansion project assessment and constructing the land reclamation area, all development within Botany Bay, including the

proposed seabed dredging by Caltex, has potentially attributed to changing (both individually and cumulatively) the hydrodynamics and coastal processes of the Bay.

As indicated above, the proposed seabed dredging by Caltex, if approved, may change the assumptions and conclusions of the Port Botany Expansion EIS. It is therefore recommended that Caltex be required to undertake monitoring of hydrodynamic and coastal processes, for a period of time, in order to confirm the conclusions of the modelling that has been undertaken as part of the subject application.

If you would like to discuss this matter further, please contact me on 9296 4672.

Yours sincerely,

Greg Walls
Environmental Planner
on behalf of Port Botany Operations Pty Limited (as trustee for the Port Botany Unit Trust)

February 2013

CONVERSION OF KURNELL REFINERY TO A FUEL IMPORT TERMINAL

PROPOSED WORK AT THE CALTEX WHARF AND SUB BERTH

In 2012, Caltex announced a decision to convert the Kurnell refinery to a fuel import terminal.

Our proposal is to continue to operate the refinery until the second half of 2014, while at the same time carrying out work to convert the site to a terminal.

The conversion involves work inside the refinery as well as at the wharf and sub berth to provide flexibility to import fuel products in a broader range of ship sizes, and to reconfigure the site to import and store fuel products in place of crude oil. The final stages of conversion would include the shut down and demolition of process units, and site remediation.

Environmental Impact Statement

Caltex is seeking approval to carry out dredging and upgrades to our Kurnell port and berthing facility (wharf and sub berth). As the proposed work is classified as a State Significant project, Caltex has lodged a development application with the NSW Department of Planning and Infrastructure.

As part of the approvals process an Environmental Impact Statement (EIS) for the proposed work has been prepared. The EIS describes the work to be carried out, and how we will avoid or minimise any potential impacts to the community and the environment. The EIS was prepared following extensive research, surveys and studies by a team of independent experts as well as consultation with the community and government agencies including the EPA, Fisheries, National Parks and Sydney Ports.

A separate EIS is being prepared for the conversion works inside the refinery, and will be on exhibition mid-year.

This leaflet provides a brief overview of the EIS for the works at the wharf and sub berth.

Overview of the EIS

Need for the proposed works

As the only point of import for Caltex in NSW, the Kurnell wharf and sub berth are critical to ensuring fuel supply to NSW and the ACT.

The refinery currently receives crude oil ships up to 245 metres in length as well as a mix of smaller product ships. Conversion of the refinery to a terminal would see crude oil imports replaced by fuel imports in a mix of product ships up to 245 metres in length.

Caltex is seeking approval to carry out dredging to return the depth of the seabed at the wharf and sub berth to its previous operational state and expand the fixed berths, and to upgrade berthing facility infrastructure. The work would ensure ships can continue to safely access the berths and also provide the flexibility to import fuel in a range of ship sizes up to 245 metres at both the wharf and sub berth.

Reconfiguring the berths would also improve efficiency which over time would result in a decrease in the number of ships accessing the Kurnell port and berthing facility.

Taking no action would result in seabed sediment continuing to build at the Kurnell wharf and sub berth which would eventually force Caltex to reduce the size, and increase the number of shipments to meet demand. Eventually, it would become impossible to achieve the number of ship movements required to meet NSW and ACT fuel demand.

Description of the proposed work

The proposed works would include:

> spot-dredging to return the turning circle and berth approaches to their original design depth of 12.8 metres, and the sub berth to its original design depth of 14 metres;

> dredging to increase the size of the fixed berths and their overall depth to 12.8 metres;

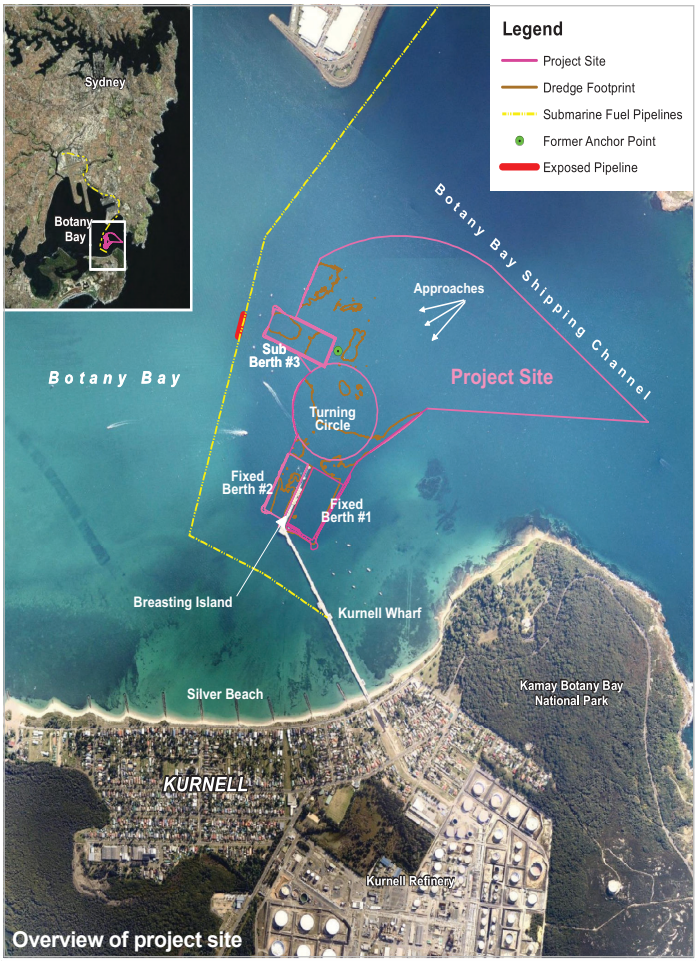
> reusing a small amount of dredged sediment to cover two exposed sections of submarine pipeline behind the sub berth and to fill a hole where a former anchor point for the sub berth was located;

> disposing of the remaining dredged sediment in a Commonwealth government approved disposal area located approximately 10kms off-shore from Sydney;

> upgrading the fixed berth #1 infrastructure by replacing moorings, installing hydraulic loading/unloading equipment (similar to berth #2), constructing a new bow mooring point extending 47 metres beyond the existing wharf structure and a connecting narrow walkway, and constructing an underwater sheet piled rock wall at the southern end of the berth to help stabilise the wharf structure;

> upgrading the wharf fire safety system;

> upgrading and reconfiguring the sub berth moorings.



Overview of project site

Work schedule
The proposed works would be undertaken in stages over a two-year period starting mid-2013. Dredging would take approximately 6 months, the sub berth upgrade approximately 4-6 months and the fixed berth #1 upgrade approximately 24 months to complete.

Working hours
The proposed hours of work would be Monday to Friday: 7am-6pm and Saturday: 8am-1pm, with the exception of:

> upgrades to the sub berth, which would also take place on Saturday afternoon (1pm-6pm) and Sunday (8am-6pm)

> dredging, which would take place continuously for up to 23 weeks

Traffic
The works would include a mix of dredgers, hopper barges, tugboats, supply and service ships. Up to 10 vessels could be working across the project site at any one time. Road traffic would be limited to equipment deliveries, with some 160-200 truck movements over the 24 month duration of works, and up to 40 additional personnel accessing the site.

Potential impacts to the community
The EIS assesses potential impacts on the community from the proposed works and the measures that will be used to minimise impacts including:

Noise - Potential sources of noise include dredging and construction equipment and activities (backhoe dredger, compressors, grinding) as well as piling. Studies found that noise from the work would mostly be within the guidelines set by the NSW EPA. The activity expected to generate the most noise is the short term piling work on the wharf. Some of the measures that will be used to help manage noise impacts include using dampeners and shielding equipment during piling, taking periodic breaks in the work and carrying out noise monitoring. Caltex will ensure that the community is kept informed of the proposed works including specific communication about the schedule for activities such as piling.

Odour - Potential sources of odour include construction equipment and activities (e.g. vessels, generators, welding, oxy cutting), and dredged sediment when it is being loaded onto the barge for transportation. Studies found that odours generated would be minimal and unlikely to impact the community. Some of the measures that will be used to help ensure odours are kept to a minimum include screening of certain work (e.g. welding), the use of dredging methods that minimise the breakdown of dredged sediment and timely removal of sediment from the area.

Recreation - The majority of the proposed work is within a Marine Security Zone which cannot be accessed by the community. Beyond this area works would be limited to minor dredging, taking approximately 2 weeks to complete, and the periodic regular movement of barges as they transport sediment offshore. As such impacts to recreational use would be minimal. Extensive studies have been carried out to assess the potential impacts on recreation beyond the project site, in particular fishing. The studies show sediment dispersion would be relatively localised to the project site, and that the project site does not form a critical or important habitat for fish or support any spawning or nursery grounds.

Marine environment
The EIS assesses potential impacts on the environment from the proposed works and measures that will be used to minimise impacts.

Studies examined the seabed sediment to be dredged and found that it consists mainly of sand. In some areas, seabed sediment was found to contain antifouling paint from historical shipping and potential acid sulphate soils.

Studies examined flora and fauna at the project site and found that the area is not an important habitat for fish and other species, and there are few marine plants and no established sea grass beds.

Some of the measures proposed to minimise the spread of sediment and impacts on flora and fauna at the work site and beyond include:

> using backhoe dredging to provide more controlled and accurate dredging and less initial disturbance to the seabed thus limiting the spread of sediment.

> avoiding overflow dredging (where excess water is allowed to overflow from the split hopper barge on loading) in areas where antifouling paint and potential acid sulphate soils have been found.

> depositing the dredged materials at a Commonwealth government approved offshore disposal area (located approximately 10kms off-shore from Sydney) with minimal currents and wave action to limit dispersion.

> observing for marine animals such as sea turtles, whales and dolphins during dredging and piling works and temporarily ceasing work if they approach the site.

> regular inspections by the Department of Agriculture, Fisheries and Forestry to help minimise the risk of introducing marine pest species.

Throughout the proposed works, Caltex and the relevant regulators will actively monitor the project site to ensure work is being carried out safely and that measures to minimise possible impacts to the community and the environment are implemented and effective.

Where to view the full EIS
The EIS is available for you to review during the public exhibition from 28 February until 5 April, 2013.

The full EIS may be viewed on the Department of Planning & Infrastructure website: www.majorprojects.planning.nsw.gov.au/page/

You can also go to www.caltex.com.au.

You can view printed copies of the EIS at:

> Sutherland Shire Council, 4-20 Eton Street, Sutherland

> Cronulla Library, 38-60 Croydon Street, Cronulla

> NSW Department of Planning & Infrastructure, Information Centre, 23-33 Bridge Street, Sydney

> Nature Conservation Council, 2/5 Wilson Street, Newtown

Community information sessions
You can find out more about the proposed works at the Caltex wharf and sub berth by attending one of our community information sessions at the following locations. Members of the refinery leadership team and conversion project team will be there to answer your questions. There is no need to pre-book. Simply drop in at any time and stay as little or as long as you like. Light refreshments will be provided.

Monday 11 March, 4-7pm
Caltex Kurnell Refinery,
Supply Operations Building,
2 Solander St, Kurnell

Wednesday 13 March, 4-7pm
Caltex Banksmeadow Terminal,
Penrhyn Rd, Banksmeadow

For more information contact:
Community Relations Manager, Kylie Gordon, T: 9668 1984

Our reference: LIC06/45-33:DOC13/23276:DOC13/27783:CP
Contact: Craig Patterson (02) 4224 4100

Department of Planning and Infrastructure
(Attention: Nick Hall)
GPO Box 39
SYDNEY NSW 2001

Dear Mr Hall

DRAFT SUBMISSIONS REPORT (SSD_5353)
CALTEX KURNELL PORT AND BERTHING FACILITY PROJECT, BOTANY BAY

I am writing in response to the above State Significant Development and the draft Submissions Report provided by the Department of Planning and Infrastructure (DP&I) on 21 May 2013.

Based on the information provided in the Submissions Report, the majority of the issues raised by the Environment Protection Authority (EPA) have been satisfactorily addressed. One issue however required further discussion and clarification with Caltex. This issue was the proposed change from using a backhoe dredge with a closed bucket to a backhoe dredge with an open bucket (refer to Comment A13 in the draft Submission Report).

There was insufficient information in the draft Submissions Report to justify the proposed change and for EPA to adequately assess any likely increases in water quality impacts. The draft report also stated that this dredging method was not considered in the modelling undertaken for the Environmental Impact Statement (EIS). Additional information was sought from Caltex. This information was submitted to EPA on 11 June 2013 and discussed with Caltex at a meeting on 18 June 2013.

Based on the revised assessment undertaken by its consultant, Caltex concluded that the minor increase in sediment emissions from use of this type of bucket are well within the conservative assumptions of the model used to determine the impact of the dredging operation. Caltex also stated the conclusions of the modelling study are still reliable and indicate no material change in environmental impact. Caltex also stated that the majority of the suspended sediment concentration is caused by the overflow dredging with only about three per cent contributed by the backhoe itself.

All dredging activities must be conducted in such a manner as to minimise the dispersal of sediment and Tributyltin (TBT) around the Bay and to minimise TBT being dissolved into the water column. EPA's preferred option would be for Caltex to use a closed bucket as assessed in the EIS. Caltex has stated that a closed bucket is not viable and it had always intended to use an open bucket for various operational reasons. According to Caltex, the minor increase in sediment emissions from using this type of bucket are well within the conservative assumptions of the model used to determine the impact of the dredging operations. Caltex has however proposed to implement the additional control of a silt boom around the dredger to further decrease silt emissions. In addition to the silt boom and management measures specified in Caltex's Dredging and Spoil Disposal Management Plan, EPA will also require Caltex to undertake additional water quality monitoring (mobile monitoring for TBT relative to the overflow dredging) as part of its licence to assist in assessing any potential water quality impacts.

PO Box 513 Wollongong NSW 2520
Level 3, 84 Crown Street, Wollongong NSW
Tel: (02) 4224 4100 Fax: (02) 4224 4110
ABN 43 692 285 758
www.environment.nsw.gov.au

The proposal to not use overflow dredging in areas with highly elevated TBT and the fixed berths is supported. This is because overflow dredging has the potential to mobilise and solubilise TBT into dissolved form where it can impact marine life. Where practicable and given the nature of TBT impacts at very low concentration, overflow dredging should only occur in areas uncontaminated by TBT based on ANZECC 2000 sediment quality guidelines (ISQG-low). Should this not be practicable, further restrictions on overflow dredging may need to be implemented during dredging operations should the results of the water quality monitoring program indicate water quality impacts.

Based on the above discussions and additional information, EPA has determined that it is able to provide its recommended conditions of approval for the DP&I to consider in determining the application. These are included in Attachment A and relate to:

- Licensing and Environmental Management
- Water quality monitoring
- Noise monitoring
- Reporting.

Should project approval be granted, Caltex will need to submit a licence application to EPA to obtain an environment protection licence for the purposes of regulating water pollution from the proposed dredging operations (water protection licence). This application will need to be submitted prior to dredging operations commencing. Appropriate licence conditions will be developed in discussion with Caltex upon submission of the licence application form by Caltex.

In relation to the Construction Environmental Management Plan and Dredging and Spoil Disposal Management Plan, EPA provided comments directly to Caltex on 16 May 2013 in relation to these plans. EPA has also met with Caltex to discuss its review of the plans and associated recommended changes. Caltex has committed to updating the plans in accordance with these discussions.

EPA also requests an opportunity to review the draft conditions of consent for the proposal prior to finalisation, to ensure there are no consistency issues with any future licences for the project.

Should you have any further enquiries, please contact the officer above.

Yours sincerely

24/6/13

PETER BLOEM
Manager Illawarra
Environment Protection Authority

Att:

(N:\FINALS\2013\EPL\L837\CP DOC13-23276 CALTEX PORTS & BERTHING EIS - SUBMISSION RPT.DOC)

ATTACHMENT A

RECOMMENDED CONDITIONS OF APPROVAL

Licensing and Environmental Management

- The proponent must obtain an environment protection licence for the purposes of regulating water pollution prior to the commencement of the dredging operations.
- All works and activities associated with the dredging operations of the Kurnell Port and Berthing Facility upgrade must be carried out in accordance with the conditions of the water protection licence issued by EPA.
- All works and activities associated with the upgrade of the Kurnell Ports and Berthing Facility must be carried out in accordance with the following documents except as expressly provided by a condition of the Water Protection Licence issued by EPA.
  a) Environmental Impact Statement and associated Appendix prepared by URS Australia dated February 2013
  b) Submissions report prepared by URS Australia dated May 2013
  c) Construction Environmental Management Plan and associated sub plans including the Noise Management Plan
  d) Dredging and Spoil Disposal Management Plan and associated sub plans including the Sediment and Water Quality Management Plan.
- Prior to the commencement of the Kurnell Port and Berthing Facility upgrade works, all Environmental Management Plans and associated site procedures must be completed. Appropriate procedures should also be developed for reviewing and improving the requirements of each plan to allow for adaptive management and to address any contingencies that may arise over the life of the project.

Water Quality Monitoring

- The dredging operations must be managed to ensure pollution of waters does not occur except as expressly provided in any condition of the water protection licence.
- All reasonable and feasible mitigation and management measures must be implemented during dredging operations to minimise the dispersal of sediments and Tributyltin (TBT) within the waters of Botany Bay.
- Dredging operations and associated water quality monitoring (including mobile monitoring for TBT relative to the overflow dredging) must be undertaken in accordance with the Water Protection Licence issued by EPA and Caltex's Sediment and Water Quality Monitoring Program.
- Prior to the commencement of the dredging activities, Caltex must obtain baseline water quality data in accordance Caltex's Sediment and Water Quality Monitoring Program. This data must be used for comparison purposes when assessing water quality monitoring results.

Noise Monitoring

- All construction works (excluding dredging and sub berth upgrade works) must be undertaken between the hours of 7:00am to 6:00pm Monday to Friday and Saturday 8:00am to 1:00pm, with no construction activity on Sundays and Public Holidays unless inaudible at any residential premises. The sub berth upgrade works may be undertaken between the additional hours of 1:00pm and 6:00pm on Saturday afternoons and 8:00am and 6:00pm Sundays.
- The above construction hours would not apply to the delivery of material outside the hours of operation, if that delivery is required by police or other authorities for safety reasons; and/or the operation or personnel or equipment are endangered. In such circumstances, prior notification must be provided to the DP&I and affected residents as soon as possible or within a reasonable period in the case of emergency.
- Appropriate respite periods should be implemented to address any noise complaint(s) associated with any construction noise (including piling and rock revetment activities) and any loud construction works.
- Attended noise monitoring must be undertaken each calendar month along Prince Charles Parade and at Rangers House in Kamay Botany Bay National Park when works are to take place outside of the standard working hours as defined by the Interim Construction Noise Guidelines.
- Attended noise monitoring must be undertaken along Prince Charles Parade and at Rangers House in Kamay Botany Bay National Park at the commencement of and during key noise-generating activities (including piling and rock revetment construction) to ensure noise levels comply with the project specific noise criteria as specified in the Noise Management Plan.

Reporting

- The proponent or its employees must notify Council and EPA of any incident that is causing or is likely to cause environmental harm as soon as the person becomes aware of the incident.

Fay, Chris

From: Nicholas Hall <Nicholas.Hall@planning.nsw.gov.au>
Sent: Monday, 17 June 2013 4:47 PM
To: Fay, Chris
Subject: Fwd: Fw: Caltex Kurnell Port and Berthing Facility (SSD-5353)

Chris,

Here is the submission from Fisheries NSW for you to address in the final Submissions Report.

I have today spoken with Craig Patterson at the EPA. He said that he is aiming to finalise his written response and email it to Caltex and the Department by Thursday or Friday this week following your meeting with him on site tomorrow.

Regards,

Nick

Nick Hall
Senior Planner, Major Projects Assessment
NSW Department of Planning & Infrastructure | GPO Box 39 | SYDNEY NSW 2001
T 02 9228 6438
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E nicholas.hall@planning.nsw.gov.au

>>> <wayne.jones@dpi.nsw.gov.au> 17/06/2013 4:32 pm >>>
Hi Nick/Glen

Please see following Fisheries NSW comments on the above project. Formal DPI response will follow shortly. As a rule we do not respond directly to proponents so if necessary can you forward to Caltex.

Mr Nick Hall
Senior Planner – Rail and Ports
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

nicholas.hall@planning.nsw.gov.au

Dear Mr Hall,

Kurnell Ports and Berthing Facility (SSD_5353)
Comment on the Response to Submissions Report

I refer to your email dated 22 May 2013 to the Department of Primary Industries in respect to the

above matter.

Comment by Fisheries NSW
Fisheries NSW has reviewed the Draft Submissions Report for the Kurnell Ports and Berthing Facility, the Dredging and Spoil Disposal Management Plan, Sediment and Water Quality Monitoring Plan, and Construction and Environmental Management Plans for the Kurnell Wharf Infrastructure Upgrade including a separate plan for the Installation of the Sheet Pile Wall and Rock Revetment.

Many of the matters raised by Fisheries NSW have been addressed in the Submissions Report. However, it should be noted that Fisheries NSW has expressed concern at the change from the 'closed bucket' dredging system (proposed at the environmental assessment stage) to an 'open bucket' system. Further comments are provided in Attachment A.

For further information please contact Carla Ganassin, Conservation Manager, Wollongong Office, on 4254 5527, carla.ganassin@dpi.nsw.gov.au.

Yours sincerely

Phil Anquetil
Executive Director Business Services

Attachment A

Kurnell Ports and Berthing Facility (SSD_5353)
Comment on the Response to Submissions Report
Comment by Fisheries NSW

Fisheries NSW is responsible for ensuring that fish stocks are conserved and that there is no net loss of key fish habitats upon which they depend. To achieve this, Fisheries NSW ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (FM Act) (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act, respectively), and the associated *Policy and Guidelines for Fish Habitat Conservation and Management (2013).* In addition, Fisheries NSW is responsible for ensuring the sustainable management of commercial, recreational and Aboriginal cultural fishing, aquaculture and marine protected areas within NSW.

Many of the comments previously raised by Fisheries NSW at the public exhibition stage have been addressed in the Draft Submissions Report Fisheries NSW now wishes to update its advice on this proposal. This advice considers the policies and provisions stated above and the revised and additional mitigation measures detailed in Chapter 4 of the draft Submissions Report (May 2013) and additional information relating to the turbidity impacts provided to Fisheries NSW from the NSW Environment Protection Authority (EPA).

1. It is stated in the draft Submissions Report that the contractor will be using an 'open' bucket dredging system. This is a change from the 'closed' bucket system that was proposed at the environmental assessment stage. There is no mention within the environmental assessment of the type of dredging bucket that was considered in the sedimentation modelling.

Since the draft Submission Report, the Environment Protection Authority has forwarded additional information from Caltex regarding the proposed use of an 'open' bucket dredging system. As stated in this information it appears that there will be no additional increase in turbidity from an 'open' bucket system to that modelled in the environmental assessment. However, there still appears to be no comparison of the various dredging bucket systems that can be used from a turbidity perspective.

With the NSW EPA having a licensing role on the dredging activity, Fisheries NSW will support the EPAs final assessment on this matter. The additional information states that the turbidity modelling included turbidity related to bucket operation works in areas adjacent to endangered seagrasses where no overflow dredging (and associated sedimentation) is proposed, and that there should be no increase in sedimentation on seagrass to that modelled. That said, Fisheries NSW recommends that best practice in minimising sedimentation at the dredging source should be used.

2. Fisheries NSW is aware that the proposed works are occurring within an area that is contaminated with Tributyltin compounds (TBT). Fisheries NSW is particularly concerned about potential impacts on adult and juvenile fish and other aquatic species from re-suspended TBT, particularly within and in the immediate vicinity of the project site. It appears from the EIS that such impacts are not likely to significantly affect aquatic life within this area. However, advice and appropriate recommendations from the Government agency with relevant expertise and jurisdiction over this matter should be implemented.

3. Part of the modelled sediment deposition over seagrass areas falls in the area of seagrass habitat where active remediation research is currently occurring following the harm resulting from AusGrid's Energy Cable Laying Project. Fisheries NSW scientists have been alerted of this and have asked to be kept informed of when the dredging activity will occur. The Department of Planning and Infrastructure is hereby advised of this request.

4. As the EIS notes, Botany Bay is a Recreational Fishing Haven. This was established in 2002, when recreational fishers invested $10 million, via recreational fishing licence fees, to buy out commercial fishing effort in Botany Bay, and gain sole fishing rights within the Bay. Since then, the recreational fishing community has invested significant funds in improving recreational fishing opportunities and amenities within Botany Bay. Recreational fishing stakeholders have expressed ongoing concerns with potential impacts of the proposal on recreational fishing in the Bay, especially in relation to the size of the dredge footprint and disturbance caused by vessel movements. The preference for Fisheries NSW is that long term recreational fishing access is to be maintained to all fishable sites within this highly-valued Recreational Fishing Haven.

5. Fisheries NSW request to be notified of when the dredging and spoil disposal activities are occurring. This is so recreational and commercial fisheries stakeholders are informed of the dredging event so that they can adjust their activities accordingly.

6. The proposed disposal of dredged spoil at the Sydney Offshore Dumping Ground is an activity that requires authorisation by the Federal Government. Commercial and recreational fishing stakeholders who fish in this area have expressed concern regarding the deposition of contaminated material at sea. Fisheries requests this matter be appropriately considered to ensure the deposited sediment does not have any significant impacts on marine ecosystems within and adjacent to the proposed dump site.

7. Regarding the various management and monitoring plans within Appendix D of the Draft Submissions Report, Fisheries NSW consider these documents to be adequate with the inclusion of the following:

- The *Dredge and Spoil Disposal Management Plan* needs to be updated to include the

proposed use of a silt boom.

- Section 8.3 of the *Dredge and Spoil Disposal Management Plan* – this section should refer to preventing the introduction of all marine pests (both flora and fauna). Associated performance indicators, monitoring, reporting, and corrective action measures should relate to all marine pests, not just *Caulerpa taxifolia* as currently proposed.
- The *Sediment and Water Quality Monitoring Plan* needs to be updated to include the additional mitigation measure to monitor seagrass within the draft Submissions Report (Item E7).

End Attachment A

Regards
Wayne

Wayne Jones | Administrative Officer
Department of Primary Industries
Level 48, MLC Centre, 19 Martin Place Sydney NSW 2000
T:02 9338 6708 | E: wayne.jones@industry.nsw.gov.au
----- Forwarded by Wayne Jones/DII/NSW on 17/06/2013 04:14 PM -----

From: Greg Paine/DII/NSW
To: Wayne Jones/DII/NSW@NSW
Cc: nicholas.hall@planning.nsw.gov.au, Carla Ganassin/DII/NSW@NSW, glenn.snow@planning.nsw.gov.au
Date: 17/06/2013 04:05 PM
Subject: Fw: Caltex Kurnell Port and Berthing Facility (SSD-5353)

Wayne - please email to Nick and Glen Snow as per below the DPI advice ahead of the sign-off .

Nick -

(i) do you have my new number? - 9338 6778.

(ii) yes - the Fisheries response is complete

(iii) we have a number of letters awaiting formal sign-off incl. this one.Will try and get them out in next day or so.

Greg Paine.

----- Forwarded by Greg Paine/DII/NSW on 17/06/2013 03:31 PM -----

From: "Nicholas Hall" <Nicholas.Hall@planning.nsw.gov.au>
To: greg.paine@industry.nsw.gov.au
Cc: carla.ganassin@dpi.nsw.gov.au
Date: 17/06/2013 02:57 PM
Subject: Caltex Kurnell Port and Berthing Facility (SSD-5353)

Greg,

I just tried calling you but you weren't there so I thought I would email you instead.

I understand from Craig Patterson at the EPA that NSW Fisheries response to the draft Submissions Report is almost finalised.

As I will be out of the office for the remainder of this week, it would be appreciated if you could send the response to Caltex and myself with a copy to my manager, Glenn Snow. His email address is glenn.snow@planning.nsw.gov.au.

Thanks,

Nick

Nick Hall
Senior Planner, Major Projects Assessment
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NSW GOVERNMENT | Office of Environment & Heritage

Our reference: Doc13/23335
Contact: Rachel Lonie
9995 86837

Nick Hall
Senior Planner - Rail and Ports
Infrastructure Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Hall

I refer to your letter received by the Office of Environment and Heritage (OEH) on 21 May 2013, inviting OEH to provide further comment or updates on the proposal. OEH's comments are below.

Section 3.2.3 - NSW OEH
Comment C1
In response to OEH's comment regarding the scope of the study area being limited to the dredge site within Botany Bay and not including areas outside of the Bay between the dredge site and the Sydney Offshore Spoil Ground, the report states that while the upgrade of the port and berthing facility would take place in NSW State waters, the disposal of dredged sediments offshore will occur in Commonwealth waters and will be assessed under the *Environment Protection (Sea Dumping) Act 1981*. This will include an assessment of the environmental impacts resulting from loading, transporting and disposing of the dredged sediments which will be provided to the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) for review. OEH acknowledges that sediment disposal will occur in Commonwealth waters and accepts that the impacts on marine fauna will be assessed as part of Caltex's application to SEWPaC. However, the shipping movements between the dredge site and the disposal site will occur within NSW State waters and therefore an assessment of the potential impacts on all marine/pelagic fauna listed under the NSW Threatened Species Conservation Act which are likely to occur in these waters should have been included in the EIS. Measures to minimise/avoid impacts on marine fauna were included in the draft CEMPs for the infrastructure upgrade works at the Kurnell Wharf, but they do not cover offshore sediment disposal.

Comment C2
The report acknowledges that Pied Oystercatcher and Little Tern use habitat at Silver Beach but reiterates the conclusions in the EIS which state that dredging would only result in minor changes to hydrodynamic conditions and coastal processes in this area of the Bay and therefore no specific mitigation measures would be required. Appendix B (Hydrodynamic Modelling Clarifications) of the report is quoted to support these conclusions. It states that beach stability and long-shore transport/erosion would not be significantly affected along Silver Beach, any small changes would be located in the Silver beach groynes area, which is inherently protected, and that associated intertidal habitat would remain unaffected. OEH considers that these conclusions should be tested via a monitoring program before, during and post dredging.

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The report raises an additional matter under this section relating to the dispersion, deposition and potential bioaccumulation pathways of TBT from contaminated sediments mobilised during dredging.

OEH did not raise this as an issue initially because the EIS (11-27) stated that the dredging was unlikely to generate levels of bioavailable TBT that would present a risk to marine fauna. It concluded that any dissolved TBT generated would be sufficiently dispersed not to impact on any of the ecological values of the study area and that for sediment-bound TBT; exceedances of the ISQG threshold limits for ecological protection would be limited to areas within a few hundred meters of the dredging operations.

The EIS also stated that toxicity tests on most contaminated sediments at the dredge site confirmed that there would be no likely impacts due to either sediment-bound or dissolved TBT and that further toxicity testing of dissolved TBT was not required. However, the Submissions Report (3-37) indicates that there are intertidal areas around Kamay Botany Bay National Park which would potentially be affected by TBT dispersion/deposition and that this could result in TBT bioaccumulation up the food chain which could potentially affect threatened shorebirds and migratory waders. The report goes on to say that while these potential TBT bioaccumulation pathways exist, the sediment concentrations are below those associated with changes to ecological communities and reproduction inhibition and that it is unlikely that the concentration of bioavailable TBT would increase to detectable levels. Consequently the report concludes that bioaccumulation of TBT represents only a 'negligible' risk to these birds compared to existing conditions. OEH considers that the 'existing conditions' and 'negligible risk' need to be better defined and tested through monitoring of bioavailable TBT concentrations before, during and post dredging in sensitive habitats which dispersion modelling indicates may be impacted by deposition/re-suspension of contaminated sediments.

Comment C3
Appendix D Management Plans comprises draft versions of CEMPs for the Kurnell Wharf Infrastructure Upgrade and Installation of a Sheet Pile Wall and Rock Revetment. There is no Dredging and Spoil Disposal Management Plan. Section 8.3 Fauna in both of these draft CEMPs includes an identical list of management actions to minimise injury or death of fauna or minimise loss of fauna habitat. These management measures are largely generic. Some address specific concerns raised by OEH relating to light spill and the impacts of construction noise on marine fauna, but lack sufficient detail for effective implementation. OEH therefore recommends that an appropriately qualified and experience fauna ecologist be retained to develop a more comprehensive fauna management plan that addresses all of the potential impacts of this project on threatened fauna likely to be effected by various aspects of the proposal.

It should be noted that OEH does not agree to the inclusion of a consultative, approval or 'signoff' roles for OEH in any of the conditions of consent without prior discussion and written agreement between OEH and DP&I. If you have any queries regarding this matter please contact Rachel Lonie on 9995 6837 or at rachel.lonie@environment.nsw.gov.au.

Yours sincerely

S. Harrison 07/06/13

SUSAN HARRISON
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File No: 13/08495
Job ID: A1473435
Your Ref:SSD-5353

Swati Sharma
Senior Planner - Ports and Rail Projects
Infrastructure Projects Branch
NSW Department of Planning & Infrastructure
GPO Box 39,
SYDNEY NSW 2001

Dear Ms Sharma

RE: Request for review of Heritage Impact Assessment (Appendix F) by AMBS of the Kurnell Ports and Berthing Facility Environmental Impact Statement (EIS) – SSD-5353.

I refer to your email requesting comment and review of the above report which forms part of the Kurnell Ports and Berthing Facility EIS by URS (dated 13 May 2013).

The Director-General's Requirements (DGRs) for the project identified heritage as one of the Key Issues, as including but not limited to:

- Aboriginal and historic heritage items and values of the site and surrounding area (including known or probable maritime heritage sites and appropriate surveys); and
- taking into account of the NSW Heritage Manual (NSW Heritage Office, 1996), Assessing Heritage Significance Guidelines (NSW Heritage Office, 2001) and Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC, 2005).

It is noted that your email requests review of the Heritage Impact Assessment (HIA), however additional review of the main Environment Impact Statement (EIS) has revealed a number of issues relating management of heritage on site during the lifetime of the project and accordingly we are providing comment on both reports. We have also decided to include recommended conditions of consent for this project, should it be approved.

Overall, review of the HIA has revealed that the report by AMBS is a solid document with only minor issues.

1. Recommendation 3 requires that "*Consideration should be given to preparing a photographic recording of the existing fabric and operation of the Kurnell Wharf prior to the upgrade works, including in particular the existing infrastructure at Fixed Berth 1, which would be replaced as part of the proposed works. This record would become part of the history of the place and should be maintained for the appreciation of the present and future generation.*"

   However, although it was recommended that the structures to be removed from Fixed Berth 1 on the Kurnell Wharf were to be photographically recorded as an historical record, no storage repository for these records has been stipulated

   - It is recommend that the photographic archival records of the structures to be removed from Fixed Berth 1 are submitted to Heritage Council Library before their removal/ demolition;

- It is recommended that an updated version of Recommendation 3 which addresses the points above should be included in the Mitigation and Management Measures sections of the EIS.

2. Volume Two of the EIS includes a letter from Rockdale Council dated 13/7/2012, in which concern was expressed that there had been a cumulative effect of multiple major projects on the western foreshore of Botany Bay, (particularly at Lady Robinsons Beach) over the last 50 years.

    - This issue was not considered as part of the HIA. It is recommend that the Heritage Impact Assessment also consider the cumulative impact of the proposed works on any heritage sites in this area and that this information, once undertaken, should also be considered in the overall EIS document.

Review of the EIS has revealed more substantial issues regarding proposed management of maritime heritage which require amendment, specifically to the Proponents Mitigation and Management Measures sections prior to the project being determined. If this amendment is not undertaken, this project will potentially have major impacts on the maritime heritage of Botany Bay.

As it currently stands the EIS is considered inadequate as it lacks the appropriate background research and assessment, required to identify potential archaeological sites in the study area. The missing information makes it difficult to address the potential impacts of the proposed development on any conservation areas or heritage items on the site or in the vicinity of the site.

These issues are broken down below for your convenience:

1. The HIA has indicated that the likelihood of shipwreck and other maritime heritage sites occurring in the area is currently unknown.

    Accordingly, Recommendation 5 of the HIA states that *"To mitigate against the potential for unexpected discovery of relics delaying the works program, existing side scan data of the north=western section of the dredge footprint in Area 1 (Turning Circle and its approaches) should be reviewed by a maritime archaeologist prior to works. If this data is not available, a remote sensing survey should be undertaken by a maritime archaeologist prior top works. In addition, works in Areas 2 and 3 should be monitored for maritime cultural heritage to ensure that any relics exposed would be assessed by a maritime archaeologist, and an appropriate strategy put in place".*

    The HIA also notes that no survey of the area for maritime heritage sites had been undertaken, and although a preliminary survey of part of the area had been carried out by Greys Diving Services, there was still potential for dredging to uncover maritime relics and artefacts (p:60).

    However, the EIS only adopts only Recommendations 3 and 4 from the HIA in regards to maritime heritage sites.

    - This is inadequate. There is a demonstrable need to undertake a side scan survey of the seabed in the areas not covered by previous available remote sensing and the results of all side scan sonar imagery should be analysed by a suitably qualified and experienced maritime archaeologist. This must be undertaken to inform the EIS as soon as possible.
    - If this is not possible, the requirement for a side scan survey must be included as a condition of consent for this project, to be undertaken before any works commence.

2. The statement in Section 12.6.3 of Volume 1 of the EIS (and repeated on page v of the HIA) states that "*given the materials used in the construction of the potential wrecks, their relatively small size, the exposed nature of the seabed in this area of the Bay, and the dredging and extensive surveying and diving that has taken place in the sub berth and fixed berths, it is predicted that the potential for any shipwrecks or other items of underwater cultural heritage to be present in the vicinity is low*" is not supported by the Heritage Branch.

    There are numerous examples where small, often fragile shipwrecks are regularly found in exposed areas where dredging and diving has previously been undertaken (e.g. the recently found wrecks of the *Herald* and *Colonist* in Sydney Harbour).

- Again, this demonstrates the need for the Proponent to undertake a side scan survey of the seabed. The results of this survey need to be analysed by a suitably qualified and experienced maritime archaeologist. This information should be included in an amened EIS which is sent to the Heritage Branch for review.

Given the issues raised above, the proponent's Mitigation and Management Measures Sections in the EIS do not sufficiently mitigate the potential heritage impacts this project will have.

It is considered that the EIS has not adequately considered all heritage items as outlined in the Director General's Requirements (i.e. non-indigenous items and values of the site and surrounding areas (including known or probable maritime sites and appropriate survey) in and around the project area.

It is recommended that prior to any further assessment of this proposal or any project approval being issued the proponent is required to submit a modified EIS that includes the information recommended above to the Heritage Council for review.

If you have any questions regarding the above advice, please feel free to contact Dr Brad Duncan at Brad.Duncan@heritage.nsw.gov.au.

Yours sincerely

21/05/2013

Vincent Sicari
Manager – Conservation Team
Heritage Branch
Office of Environment & Heritage
Department of Premier & Cabinet

As Delegate of the NSW Heritage Council