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CALTEX REFINERIES (NSW) PTY LTD

Kurnell Wharf Infrastructure Upgrade

Construction Environmental Management Plan

301015-03067 – 301015-03067-EN-REP-009

3 October 2013

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Disclaimer

PROJECT 301015-03067 - KURNELL WHARF INFRASTRUCTURE UPGRADE

REV	DESCRIPTION	ORIG	REVIEW	WORLEY-PARSONS APPROVAL	DATE	CLIENT APPROVAL	DATE
A	Issued for internal review	N Cowlishaw	S Mason-Jones / B Fitzgerald		24-01-13	N/A	
B	Issued for client review	N Cowlishaw	S Mason-Jones		25-01-13		
0	Issued for use	N Cowlishaw	S Mason-Jones	S Rachkidi	05-02-13		
1	Reissued for use	N Cowlishaw	S Mason-Jones	D Aubourg	09-04-13		
2	Reissued for use	N Cowlishaw	S Mason-Jones	D Aubourg	26-08-13		
3	Reissued for use	N Cowlishaw	S Mason-Jones	D Aubourg	03-10-13		

CONTENTS

GLOSSARY

Acronym / Term	Definition
BHD	Backhoe dredge
CEMP	Construction Environmental Management Plan
Cetacean	All whales and dolphins
Conditions of approval	The Minister's conditions of consent for the Project (Application No. SSD_5353)
Construction	Includes all work in respect of the Project other than: • survey, acquisitions, building/ road dilapidation surveys; • investigative drilling, excavation, or salvage; • establishing ancillary facilities/ construction work sites (in the locations nominated in the EIS, unless otherwise agreed to by the Director General); • installation of environmental impact mitigation measures and fencing; • other activities determined by the Environmental Representative to have minimal environmental impact (e.g. minor access roads, minor adjustments to services/ utilities, minor clearing or translocation of native vegetation etc). Note: work where heritage, threatened species, populations or endangered ecological communities would be affected is classified as construction, unless otherwise approved by the Director General. (DP&I 2013)
CD	Chart Datum
DAFF	Department of Agriculture, Fisheries and Forestry
Director General, the	Director General of the Department of Planning and Infrastructure
DSDMP	Dredge and Spoil Disposal Management Plan
Dugong	Large marine mammal with paddle-like forelimbs, a fluked tail and no dorsal fin or hind limbs
Dust	Any solid material that may become suspended in air or deposited
EIS	Environmental Impact Statement
Emergency	An incident that requires a significant and coordinated response to protect people, property and the environment from harm
EMR	Environmental Management Representative
EMS	Environmental Management System

Acronym / Term	Definition
Environment	Components of the earth, including: (a) land, air and water, and (b) any layer of the atmosphere, and (c) any organic or inorganic matter and any living organism, and (d) human-made or modified structures and areas, and includes interacting natural ecosystems that include components referred to in (a)–(c).
Environment Management System (EMS)	A component of the Caltex management system that is used to develop and implement the Environment Policy and manage the Environmental Aspects of its operations
Environment Policy	The document in which senior management formally expresses the overall intentions and direction of Caltex related to its environmental performance
EPA	Environment Protection Authority
EPL	Environment protection licence under the *Protection of the Environment Operations Act 1997.*
ERT	Emergency Response Team
Feasible and Reasonable	Consideration of best practice taking into account the benefit of proposed measures and their technological and associated operational application in the NSW and Australian context. Feasible relates to engineering considerations and what is practical to build. Reasonable relates to the application of judgement in arriving at a decision, taking into account mitigation benefits and cost of mitigation versus benefits provided, community views and nature and extent of potential improvements. Where requested by the Director General, the Applicant shall provide evidence as to how feasible and reasonable measures were considered and taken into account. (DP&I 2013)
GPS	Global positioning system
Heritage	Encompasses both Aboriginal and historic heritage including sites that predate European settlement, and a shared history since European settlement such as a shared associations in pastoral landscapes as well as associations linked with the mission period. (DP&I 2013)
Heritage Item	An item as defined under the *Heritage Act 1977*, and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the *National Parks and Wildlife Act 1974*. (DP&I 2013)
HSE	Health, safety and environment

Acronym / Term	Definition
ICNG	Interim Construction Noise Guideline
IIF	Incident and Injury Free
IMO	International Maritime Organisation
Incident	A localised event, either actual or impending, which causes, or threatens to cause, injury or death, or damage to property
JSEA	Job Safety and Environmental Analysis
KROSRT	Kurnell Refinery Oil Spill Response Team
Major hydrocarbon spill	A hydrocarbon spill of 8,000 L or more to land or a hydrocarbon spill of any volume to water.
MARPOL Convention	The International Convention for the Prevention of Pollution from Ships (the MARPOL Convention) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. The International Maritime Organisation (IMO) adopted the MARPOL Convention on 2 November 1973.
Material Harm	a) Harm to the environment is material if: i. It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or ii. It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment For the purposes of this definition, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.
Minor Amendment	The Environmental Representative has the authority to approve or reject "minor amendments" to the CEMP as follows: • formatting and editorial changes; • errors, misdescriptions or miscalculations; • "like for like changes" to methodology or procedures that will not result in any increase to environmental impacts; • minor changes to improve the efficacy and / or efficiency of procedures, provided the changes are consistent with relevant conditions of approval,

Acronym / Term	Definition
	licence conditions, permit condition and commitments made in the EIS (URS 2013) and Submissions Report (URS 2013a). The following **do not** comprise "minor amendments" • amendments to, or resulting in changes to, the duration and / or magnitude of activities and / or impacts; • amendments that change or remove the intent of relevant conditions of approval, licence conditions, permit condition; • amendments that change or remove the intent of commitments made in the EIS (URS 2013) and / or the Submissions Report (URS 2013a); • new project activities not previously assessed under the EIS (URS 2013) and / or the Submissions Report (URS 2013a); • changes to equipment that are not "like for like", such as substitution of one type of equipment for another. The Environmental Representative will consult with the Director General where uncertain as to whether an amendment to the CEMP constitutes a "minor amendment".
MSDS	Material Safety Data Sheet
MWMP	Marine Works Management Plan
OEH	Office of Environment and Heritage
Operation	Means the operation of the Project, but does not include commissioning trials of equipment or temporary use of parts of the Project during construction.
Pinniped	Fin-footed marine mammals, including seals and sea lions
PIRMP	Pollution Incident Response Management Plan
POEO Act	*Protection of the Environment Operations Act, 1997*
Pollution	(a) water pollution, or (b) air pollution, or (c) land pollution.
Pollution Incident	Incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.
POP	Port Operating Procedure
Project	Kurnell Refinery Wharf Upgrade

Acronym / Term	Definition
Respite periods	Continuous blocks not exceeding three hours each with a minimum respite from those activities and works of not less than one hour between each block.
RMS	Roads and Maritime Services
SCP	Spill Control Plan
SOPEP	Ship-Oil Pollution Emergency Plan
SPC	Sydney Ports Corporation
SPL	Sound pressure level
SSD	State Significant Development
SWL	Sound power level
WRMP	Waste and Resource Management Plan
TMP	Traffic Management Plan
WWTP	Waste water treatment plant

1 INTRODUCTION, LOCATION AND SCOPE OF WORK

Caltex Refineries (NSW) Pty Ltd (Caltex) proposes to undertake port and berthing facility works off Silver Beach in Botany Bay, NSW (the Project). There are two main elements to the Project:

- Dredging.
- Upgrading existing elements of the berthing infrastructure.

This Construction Environmental Management Plan (CEMP) has been prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (Department of Infrastructure, Planning and Natural Resources, 2004). The CEMP is based on the relevant information, requirements and potential impacts of construction, as identified in the Environmental Impact Statement (EIS) (URS 2013) and Submissions Report (URS 2013a) for the Project. The CEMP incorporates relevant conditions from the following:

- Draft Development Consent issued by the NSW Department of Planning and Infrastructure under Section 89E of the *Environmental Planning and Assessment Act 1979* (SSD_5353)
- Draft Environment Protection Licence (EPL) issued for miscellaneous licensed discharge to waters (at any time) by the NSW Environment Protection Authority (EPA) under the NSW *Protection of the Environment Operations Act 1997*

Relevant conditions incorporated into the CEMP are referenced in the document as Draft Conditions of Approval (DCoA) or Draft Environment Protection Licence Conditions (EPL Conditions), as relevant.

Any relevant changes between the draft and final conditions of development consent and the EPL must be incorporated into the CEMP. Relevant conditions of the Sea Dumping Permit, issued under the Commonwealth *Environmental Protection (Sea Dumping) Act 1981*, must also be incorporated into the CEMP.

Caltex has consulted with relevant Government agencies, including the EPA, in regard to preparation of the CEMP [DCoA C35].

The upgrade to existing elements of the berthing infrastructure includes an upgrade to the Kurnell wharf infrastructure and installation of a sheet pile wall and rock revetment.

The CEMP provides the basis for environmental management throughout construction works associated with the wharf infrastructure upgrade only.

Environmental management requirements for the installation of a sheet pile wall and installation of a rock revetment are set out in the *Installation of a Sheet Pile Wall and Rock Revetment Construction Environmental Management Plan (Sheet Pile Wall and Rock Revetment CEMP).*

Environmental management requirements for dredging are set out in the *Dredge and Spoil Disposal Management Plan (DSDMP).*

1.1 Location

The Kurnell Wharf is located in Botany Bay, off Silver Beach (Figure 1-1).

The Project is located in close proximity to places with important ecological and heritage values. These include:

- Towra Point Nature and Aquatic Reserves, which contain an internationally important Ramsar-listed wetland habitat (3.5 km to the west).
- Areas of seagrass beds, which support a range of threatened species (100 m to the south).
- Both Taren and Dolls Point (5 km to the west), which both contain important and protected shorebird communities.

Kamay Botany Bay National Park is located approximately 800 m to the east. The National Park contains important Aboriginal and historic heritage; which includes the landing place of Captain James Cook. The National Park also serves as a valued recreational and educational asset. The nearest residents to the Project Site are the Rangers House (Alpha House) in Kamay Botany Bay National Park (700 m to the east) and the properties along Prince Charles Parade, Kurnell (800 m to the south).

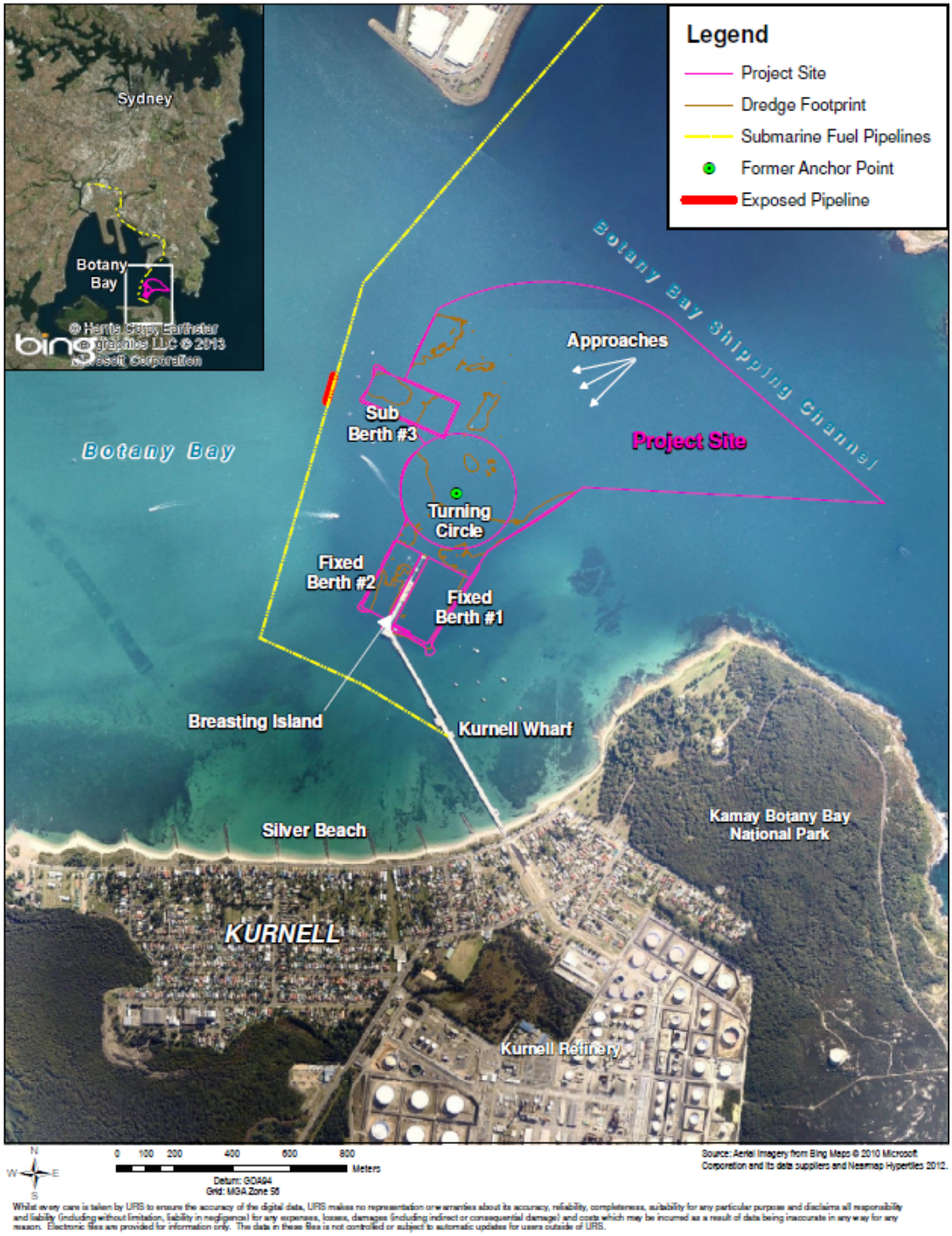


Figure 1-1: Project Site and Context (URS 2013a)

1.2 Scope of Works

This CEMP provides the basis for environmental management throughout construction works associated with the wharf infrastructure only.

A separate CEMP has been prepared for installation of a sheet pile wall and rock revetment as part of the Project.

This CEMP does not address environmental management measures associated with project design, nor the environmental management of impacts associated with dredging, or those from port and berthing facility operations.

Each Contractor will adopt this CEMP or develop their own Project specific CEMP or integrated Health, Safety and Environment (HSE) Management Plan to manage the environmental risks specifically related to their scope of work on the Project. These Contractor documents will, as a minimum, align with the requirements of this CEMP and are required to be reviewed and approved by the Caltex Environmental Management Representative (EMR) prior to mobilisation to site.

Compliance with this CEMP is mandatory for all personnel and Contractors carrying out construction activities for the Kurnell Wharf infrastructure upgrade.

2 PROJECT OVERVIEW

The Kurnell Wharf port and berthing facility is the sole entry point for feedstock of crude oil and other finished petroleum product imports to the Kurnell Refinery. At present, it is also used as the distribution point for refined products, which are either shipped interstate or overseas.

The existing facility has operated since 1956. It comprises the Kurnell Wharf (a 1 km jetty structure), at the end of which are two fixed shipping berths (fixed berth #1 and fixed berth #2) located either side of a breasting island. The facility also includes a submarine berth (sub berth), located to the west of the fixed berths, a ship turning circle and associated approaches that interface with the main Botany Bay Shipping Channel.

On the northern side of the wharf, a crude oil submarine pipeline connects the refinery's storage tanks to the sub berth and the two fixed berths. Adjacent to the wharf, south of the fixed berths, are a series of additional submarine pipelines that transport fuel under Botany Bay. These pipelines connect to terminals at Banksmeadow, Silverwater and Newcastle, whilst also servicing Sydney (Kingsford Smith) Airport.

Kurnell Wharf is located, in part, on Lot 456 DP 1413279, within the Sutherland Shire Local Government Area (LGA) and in part on unincorporated land (i.e. not part of any LGA) that is leased to Caltex by the State Government.

Caltex is undertaking port and berthing facility upgrade works to increase the capacity of fixed berth #1 to receive larger ships. Further, the upgrade works will adopt the latest design standards to enable efficient loading/unloading and improve handling and ergonomic performance. Improvements will also be made to the fuel loading and unloading equipment located on the wharf, used for fixed berth #1. Other ancillary work will include an upgrade to the fire system on the wharf and the provision of additional stability to the existing wharf piles through construction of a sheet-piled wall and rock revetment at the southern end of fixed berth #1.

The majority of work will be carried out within the existing Marine Security (exclusion) Zone around the Kurnell Wharf (Figure 2-1). Where works take place outside the existing Marine Security (exclusion) Zone, a Temporary Marine Security Zone, with a 50 m radius around the construction vessels, will be established by Caltex in consultation with Sydney Ports Corporation (SPC) and Roads and Maritime Services (RMS). The Temporary Marine Security Zone will move as the vessels move, with the vessels remaining as its centre.

Caltex will communicate the timing and location of the Temporary Marine Security Zones to the public via the methods set out in Section 7.5 and through a Notice to Mariners (via SPC and RMS).

The Project Site and its context are shown in Figure 1-1.

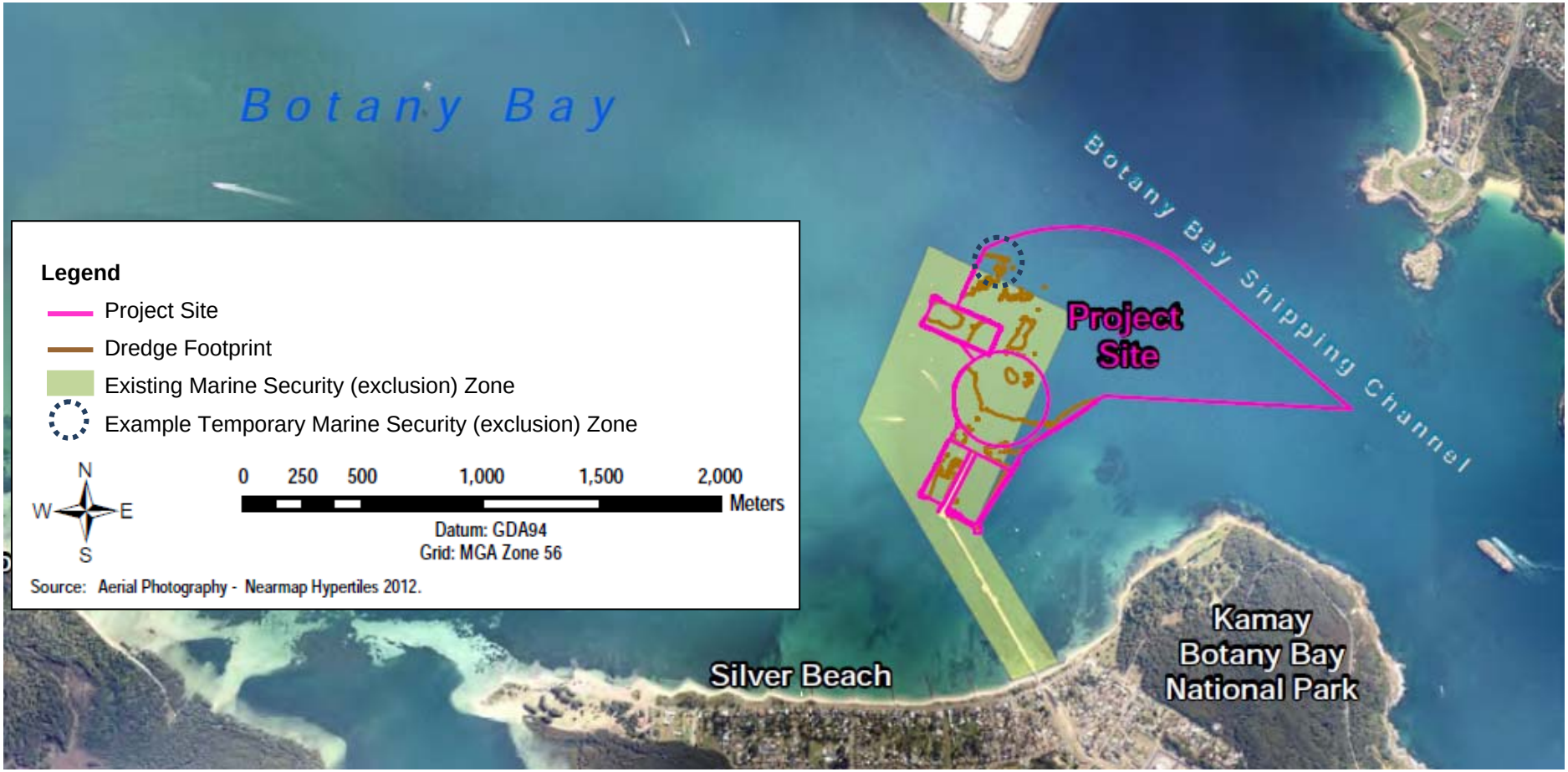


Figure 2-1: Existing and Temporary Marine Security (exclusion) Zones at the Project Site (adapted from URS 2013)

2.1 Berthing Infrastructure Upgrade

The infrastructure used for fixed berth #1 has a number of design limitations, which currently restrict the size of ship that can be berthed, the peak flow pumping rate and ease of operation due to the use of a manual system. The upgrade works will increase the ability of fixed berth #1 to receive larger ships, up to 100,000 deadweight tonnes (DWT). No major works are proposed at fixed berth #2. The infrastructure upgrade works at fixed berth #1 are shown in the general arrangement plans provided at Attachment 1 and will include:

- Decommissioning of existing berthing facilities:
    - The initial phase of works will decommission the existing berthing facilities associated with fixed berth #1. This will require closing the berth, and removing the existing equipment, including taking down an existing structure located in the proposed location of the new loading arms.

      This phase will include isolation of the existing fuel lines to fixed berth #1. Once isolated, the equipment will be flushed with water and air to ensure no residual fuel or vapours are present. This will allow 'hot working' to take place if required.

      The water flushed through the equipment will be directed to specific 'slop drums'. The oily water will then be pumped to the dedicated 'slop line' using the existing 'slop pumps' installed on the wharf. The oily water will be treated in the Kurnell Refinery at its dedicated waste water treatment plant (WWTP) prior to disposal under the terms of the site environment protection licence (EPL No. 837). It is estimated that the flushing waters will total approximately 10,000 m^3.

      Once the supply lines are deemed gas-free they will either be cold-cut or hot-worked into 6 m sections. The pipe ends will be sealed with plastic, taped and loaded on to semi-trailers and transported on to the main refinery site where they will be hydro-blasted in a dedicated area to remove any residual oil. Any oily water generated will be treated in the WWTP prior to its controlled disposal in accordance with EPL No. 837.

      The loading arms and manifold equipment will be dismantled and cleaned in the same fashion as the supply lines. The redundant pipe and loading arms will be held in the metal yard at the refinery prior to being recycled offsite.
- Installation of a supporting manifold:
    - To allow the installation of the new loading arms, a new manifold will be installed in the middle of the breasting island adjacent to the existing fixed berth #2 manifold.

      The new manifold will be installed onto an existing 50 m^2 steel structure anchored into the concrete deck of the breasting island. The new manifold will be connected to the existing supply lines that currently run from the wharf to the refinery.

All works at the breasting island will be managed under Caltex's operational environmental management plan (OEMS Process - Permit to Work PRO. DESC 4.07.01.001).

- Installation of hydraulic loading arms and replacement of bollards with quick release hooks:
  - The replacement and relocation of the loading arms (approximately 16 m north of the current loading arms) will be undertaken from the wharf deck. Three loading arms will be mounted onto a prefabricated steel structure that will be anchored to the existing wharf top deck. Three short piping spools will be installed at the wharf lower deck to connect the loading arms to the new manifold.

    The loading arms will be consistent with the design of fixed berth #2, although fractionally smaller in extended height than the existing mechanical arms (19.5 m).

    Quick-release hooks will be installed at various locations to replace the existing bollards. The hooks will be anchored to the wharf top deck concrete structure.

    Electrical cabling will be installed to supply a small hydraulic station for the loading arms, quick release hooks and valves. The cabling will be ducted, running from the existing motor control centre located on the wharf.
- Installation of breasting and bow mooring dolphins:
  - A single mooring dolphin and two berthing dolphins (forming a breasting dolphin) will be installed to allow the berthing of larger ships. Each will comprise an approximate 10 m by 10 m structure suspended on a concrete cap structure on tubular steel piles. A remotely operated quick release hook will be installed on each dolphin along with a hand railing, rope railing, lighting, power supply, access ladder and life jackets.

    Each dolphin will require foundations to be piled approximately 25 to 30 m into the seabed. The preferred method of piling is driven steel piles, whereby each tubular steel pile is vibrated until refusal or until the pile reaches depths of 1 to 2 m above the final embedment depth. The piling will then be completed by driving the piles with a drop hammer. The piles will be handled, pitched, secured to the seabed and installed by a crane/rig mounted either on a jack-up barge or floating barge restrained by mooring lines.

    Approximately six piles for each berthing dolphin and eight piles for the mooring dolphin will be installed, requiring truck and barge deliveries during the course of the works.

    Geotechnical conditions may require further action for installing the piles. This may require the piling contractor to drill, chisel or bore into the seabed to achieve the required embedment. It is also possible that if adequate embedment cannot be achieved in the sandy seabed strata alone then some of the piles may need to be anchored to the bedrock.

Anchoring into rock would be achieved by drilling 4 to 10 m into the bedrock and installing a steel anchored rod, then placing concrete to the base of the pile to achieve an anchor plug. If anchoring is required, a steady working platform such as a jack-up barge will be used.

Following the completion of the piling works and trimming of piles to their approximate level, a temporary works platform will be installed by clamping it to the piles. The platform will allow workers to install bracing to the pile group to then allow the precast berthing and bow mooring dolphin units to be installed.

The over-water concrete work would use precast elements so that limited formwork/falsework will be required. The precast elements will then be 'stitched together' using an in-situ concrete topping. This will be provided by trucks pumping the concrete from the wharf.

The fenders will be installed from floating plant or mobile cranes on the working platform.

The quick release hooks and handrails will be installed once the dolphins are in place.

The access walkway will be fabricated offsite and transported in sections for assembly onsite. The walkway will be positioned by cranes and barge-mounted cranes.

The bow mooring will be located approximately 40 m from the existing northern berthing dolphin.

- Upgrade of the existing fire safety system:
  - The current wharf firewater system will be upgraded to cover the scenario of having both berths simultaneously occupied by ships. The upgrade will require the installation of a new monitor which will sit atop a 15 m high pipe stack attached to the wharf with the capacity to reach and cover the entire tankage and deck of the larger ships. The monitor will connect directly into the existing fire water header.
- A range of minor ancillary works:
  - Minor ancillary works will include the upgrade (by replacement) of the existing fender and fender panels.

2.2 Sub Berth Upgrade

The proposed changes to the sub berth are limited to an upgrade of its mooring system to comply with the latest industry standards and return it to its design depth of 14 m below CD. Whilst the works will not increase the berthing capacity they will allow ships ranging from 60,000 to 200,000 DWT to safely moor in the berth.

The sub berth moorings and buoys currently fall outside of the berthing box. They are either not optimally configured or have reached the end of their design life. The infrastructure upgrade works at the sub berth will include:

- Decommissioning of the existing mooring equipment.
- Installation of prefabricated equipment, delivered to the sub berth by barge, as follows:
    - An upgrade of the mooring system to comply with the latest design safety guidelines (Oil Companies International Marine Forum (OCIMF) Guidelines 2010).
    - Replacement of the N°.3 Buoy with a swamp mooring to allow safer mooring close to the submarine fuels pipelines that run behind the sub berth.
    - Replacement of the N°.9 Buoy with a twin hull mooring buoy (with two separate mooring lines) given that the existing buoy does not sit flat on the water, creating a navigation risk.
    - The addition of swamp mooring lines to be labelled N°.6A, which will be located forward of the swamp mooring line of N°.6 Buoy.
    - The replacement of the existing chains with higher quality and higher grade chains.
    - Replacement of the swamp mooring lines with high performance mooring lines.
    - The replacement of N°.1, N°.2, N°.4 and N°.5 twin hull mooring buoys with new twin hull mooring buoys fitted with twin remote operated quick release hooks.

2.3 Equipment

The works to upgrade fixed berth #1 will include the requirement for the use the following equipment:

- Barge mounted cranes.
- Work barges.
- Work boats.
- Dive boats.
- Fork lifts.
- Compressor.
- Mobile cranes.

- Jack-up barge and rock hammer.
- Vibratory pile.
- Diesel generators.
- An air-operated bevelling machine.
- Welding and cutting equipment, including oxy acetylene cutting.
- Hand-held grinders.
- X-Ray equipment.
- Hydrostatic test pump for hydrotesting of pipe spools.

The works to upgrade the sub berth will include the requirement for the use the following equipment:

- A barge that would include:
    - A crane.
    - A crib room.
    - A workshop.
    - A 400 cubic-foot per minute (cfm) compressor.
    - A 20 kilovolt-ampere (kVa) generator.
    - A hydraulically-operated anchoring system that would include chain rollers and winches.
    - Oxy-cutting and welding equipment.
    - Diving equipment including umbilicals, control panels and a 25-30 cfm compressor.
- A tugboat, which would accompany the barge at all times.
- A crew boat.

2.3.1 Transport and Temporary Storage

The piles for the dolphins, along with the prefabricated buoys, anchors and moorings for the berths will be delivered to site via barge, road or potentially a mixture of both. The piles and metal work will be delivered directly to Botany Bay, requiring 15 to 20 barge-loads over the duration of the works.

Set down and temporary storage of marine based equipment for construction of the port and berthing facility works will be within the existing safeguarded easement (right of way) located behind the berth. The tugboat will be moored to the east of the breasting island near fixed berth #1, while the barge will be moored in one of the fixed berths.

A small amount of road traffic will be generated as a result of undertaking the proposed works. Road transport will include equipment deliveries and personnel movements to and from the wharf, refinery, laydown areas and one or more of the dedicated storage locations. Road access to and from Kurnell Wharf will be from Prince Charles Parade. Access to and from Kurnell Refinery will be via Solander Street.

In total, it is anticipated that 60 to 100 truck movements will be required, infrequently and intermittently, over the duration of the works. The upper limit accounts for the alternative of transporting the piles to site by road or a mixture of road and barge. These trucks would arrive at ad-hoc intervals over the two-year construction period. There will be no peak delivery to site. Total truck movements would therefore only equate to one or two trucks on any given day with long periods where there would be no truck movements.

In addition, 100 concrete trucks will be required to make deliveries to site over a six to eight week period. The program anticipates the requirement to pour concrete on nine days during this period. The amount of concrete required for each pour will vary. On the majority of the days eight to nine trucks will be required for each pour, however the largest pour could see 25 trucks arriving at site on one day. On the days when concrete pouring takes place, the trucks will be required to arrive regularly throughout the day.

The works will require the use of two temporary laydown areas during construction. The temporary laydown for the loading arms and quick release hooks will be within the refinery site. The temporary laydown for the proposed manifold pipe spools (connecting lengths of pipe) will be within the current storage areas contained in the right of way adjacent to Prince Charles Parade.

Additional materials to be shipped immediately to site will be stored at one or more of the following dedicated existing storage sites (in order of preference):

- Fishburn Road, Molineux Point.
- Lewis Anchorage, Taren Point.
- Sydney Ports Facility.
- Glebe Island.
- White Bay.
- Sydney Harbour.
- Port Kembla.

The final storage location(s) will depend on the requirements of the works' contractor and availability and capacity at the time. Temporary site offices will be located within the main refinery site adjacent to the main workshop in the northwest corner.

2.4 Construction Program

The Project is expected to be undertaken in two stages over a two year period, commencing in the third quarter (Q3) of 2013. Works to fixed berth # 1 are anticipated to extend throughout the two year construction period, with peak activities extending over an 18 month period.

The Project is expected to utilise approximately 25 personnel during the upgrade of fixed berth #1, including installation of the rock revetment, sheet pile wall and scour protection and approximately 12 personnel during the upgrade of the sub berth.

The approximate construction program for the Project is shown in Table 2-1.

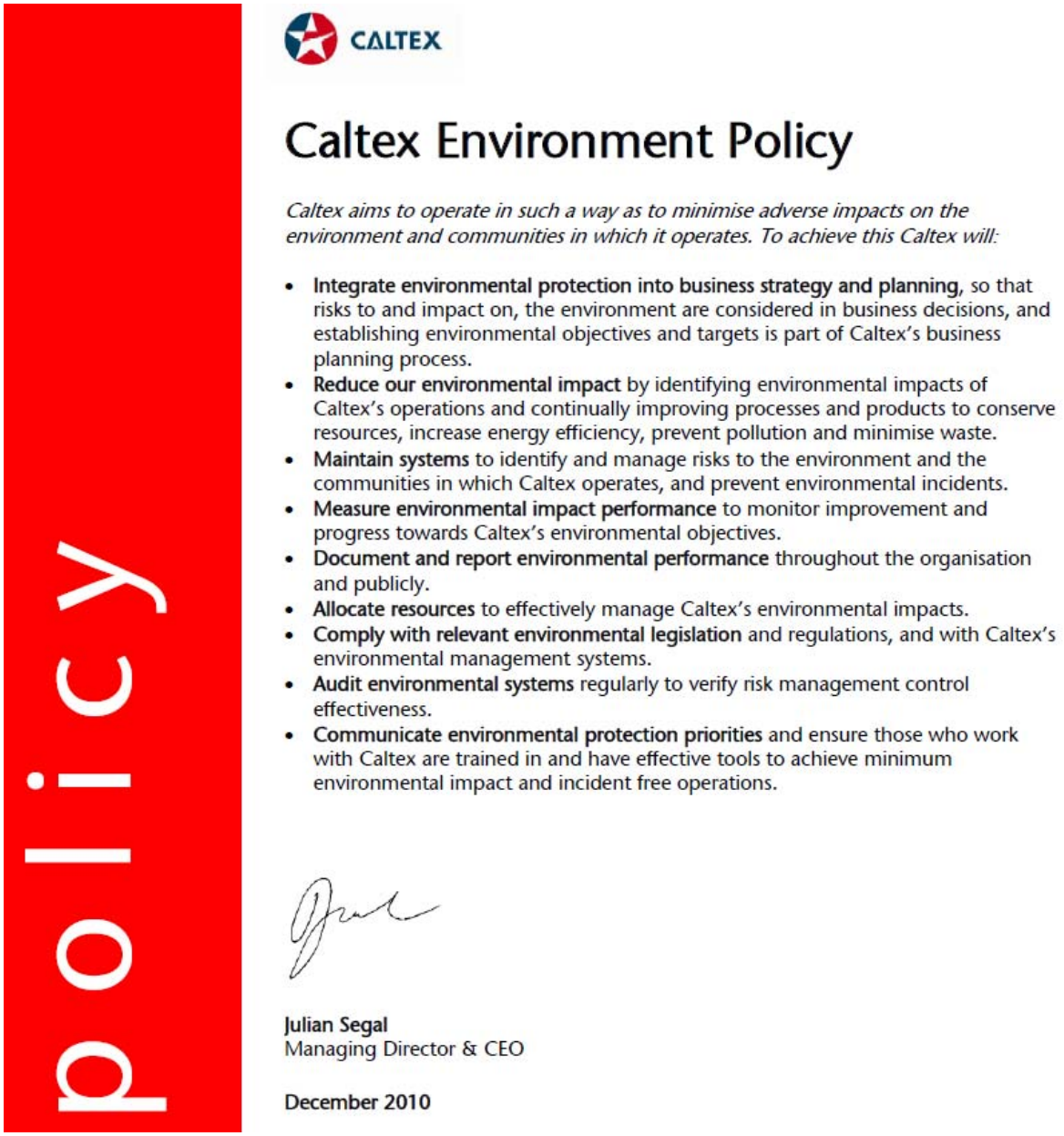
Table 2-1: Approximate construction program

Works	Duration	2013			2014				2015	
		Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Dredging and Reuse Works	23 weeks									
Sheet Piling Works	8 weeks									
Rock Revetment and Scour Protection Works	6 weeks									
Kurnell Wharf Infrastructure Upgrade Works										
Loading Arms Installation and Manifold Installation	12 weeks									
Mechanical Loading Arm Removal and New Tie-ins	12 weeks									
Quick Release Hooks	16 weeks									
Fire System	8 weeks									
Installation of Dolphins, Moorings and Piling	20 weeks (approx.)									
Sub Berth Upgrade Works	20 weeks (approx.)									

3 ENVIRONMENTAL POLICY

The Caltex Environmental Policy applies to all Caltex personnel and Contractors undertaking any activity including work on the Project. This policy is provided below.

Copies of this policy are displayed in a prominent position in the Caltex offices and on the Caltex internet site. Contractors are encouraged to also have their own environmental policy.



policy

CALTEX

Caltex Environment Policy

Caltex aims to operate in such a way as to minimise adverse impacts on the environment and communities in which it operates. To achieve this Caltex will:

- **Integrate environmental protection into business strategy and planning**, so that risks to and impact on, the environment are considered in business decisions, and establishing environmental objectives and targets is part of Caltex's business planning process.
- **Reduce our environmental impact** by identifying environmental impacts of Caltex's operations and continually improving processes and products to conserve resources, increase energy efficiency, prevent pollution and minimise waste.
- **Maintain systems** to identify and manage risks to the environment and the communities in which Caltex operates, and prevent environmental incidents.
- **Measure environmental impact performance** to monitor improvement and progress towards Caltex's environmental objectives.
- **Document and report environmental performance** throughout the organisation and publicly.
- **Allocate resources** to effectively manage Caltex's environmental impacts.
- **Comply with relevant environmental legislation** and regulations, and with Caltex's environmental management systems.
- **Audit environmental systems** regularly to verify risk management control effectiveness.
- **Communicate environmental protection priorities** and ensure those who work with Caltex are trained in and have effective tools to achieve minimum environmental impact and incident free operations.

Julian Segal
Managing Director & CEO

December 2010

3.1 Relationship to other Plans

The EIS (URS 2013), Submissions Report (URS 2013a) and Draft Development Consent (DP&I 2013) list various plans and sub-plans as being required in addition to or included within, the CEMP. Where practicable, these plans have been incorporated into this CEMP as set out below.

Plans fully incorporated into the CEMP:

- Sediment and water quality management plan [DCoA C3]
    - environmental management components incorporated into Section 8.1 of the CEMP (monitoring components incorporated into the DSDMP)
- Flora management sub-plan
    - incorporated into Section 8.2 of the CEMP
- Fauna management sub-plan
    - incorporated into Section 8.3 of the CEMP

Plans not fully incorporated into the CEMP:

- Dredge and Spoil Disposal Management Plan (DSDMP) [DCoA C36(a)]
- Construction Noise and Vibration Management Plan [DCoA C36(b)]
    - developed by Caltex and available on the Caltex intranet
    - incorporates relevant components of Section 8.4 of the CEMP
- Air Quality Management Plan [DCoA C36(c)]
    - developed by Caltex and available on the Caltex intranet
    - incorporates relevant components of Section 8.5 of the CEMP
- Construction Traffic and Access Management Plan [DCoA C36(d)]
    - developed by Caltex and available on the Caltex intranet.
    - incorporates relevant components of Section 8.7 of the CEMP
- Waste and Resource Management Plan
    - developed by Caltex and available on the Caltex intranet
    - incorporates relevant components of Section 8.8 of the CEMP
- Spill Control Plan (SCP) [DCoA C36(a)(iii)]
    - to be developed and implemented by the Contractor in accordance with the requirements set out in Section 8.1 of the CEMP

- Port operating procedure (POP) and marine works management plan (MWMP)
    - to be developed and implemented by the Contractor in accordance with the requirements set out in Section 8.7 of the CEMP
- Aquatic Health Management Plan [DCoA C8]
    - to be developed by Caltex and made available on the Caltex intranet
- Community Consultation Plan
    - to be developed by Caltex and made available on the Caltex intranet
- Construction Complaints Management System [DCoA D5]
    - to be developed by Caltex and made available on the Caltex intranet

The CEMP is supported by these sub-plans and a number of procedures prepared and implemented by Caltex and the Contractor, as shown in Figure 3-1.

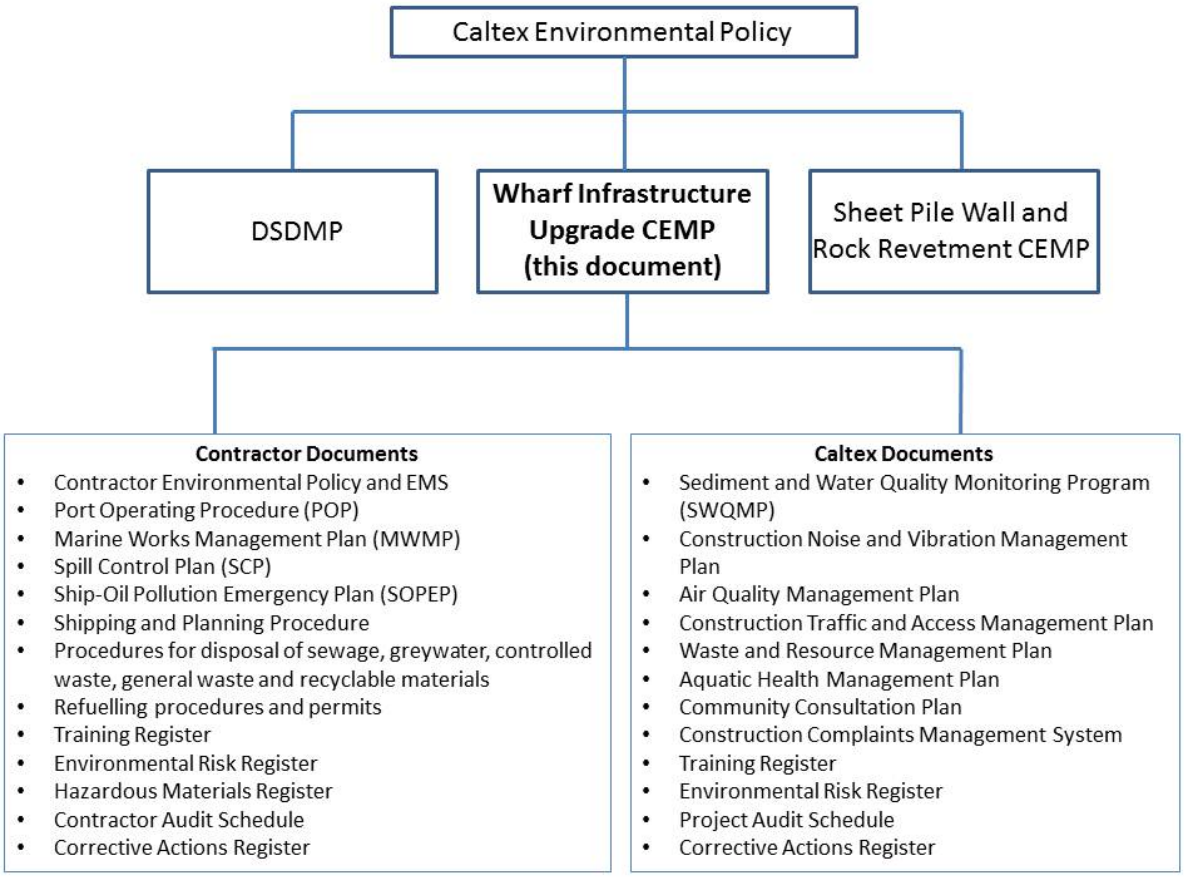


Figure 3-1: Interaction of the CEMP with plans, sub-plans and procedures

4 ENVIRONMENTAL RISKS

Potential environmental aspects and impacts associated with construction activities are summarised in Table 4-3. Establishment of the level of risk to the environment associated with these aspects and impacts has been determined by Caltex using the following criteria:

- The likelihood that a potential environmental impact will occur, if the activity is not managed
- The consequence to the environment if the impact were to occur
- Applying the above to the risk matrix to assess the level of risk associated with each construction activity

The risk matrix and risk rating applied to identified environment aspects and impacts are presented on Table 4-1 and Table 4-1.

Table 4-1: Risk matrix table

	Likelihood					
Consequence	**Practically Impossible**	**Highly Unlikely**	**Unlikely**	**Possible**	**Quite Likely**	**Common Occurrence**
Catastrophic	High	Severe	Severe	Severe	Severe	Severe
Massive	Moderate	High	Severe	Severe	Severe	Severe
Major	Low	Moderate	High	High	Severe	Severe
Moderate	Low	Low	Moderate	Moderate	High	High
Minor	Negligible	Low	Low	Low	Moderate	Moderate
Slight	Negligible	Negligible	Low	Low	Low	Low

Table 4-2: Risk rating

Rating	Classification
Severe	Significant damage, medium to long term or permanent effect, off site impact, significant cost to repair
High	Extensive damage, medium to long term effect, off site impact, moderate to high cost to repair
Moderate	Moderate damage, short to medium term effect, off-site impacts repairable at low to moderate cost
Low	Discernible impact, short term effect, site impact only, repairable at little cost
Negligible	No discernible impact, no action required

A works-specific Construction Environmental Risk Register will be developed by each Contractor to identify the environmental risks applicable to their works during the construction phase of the Project and assess the significance of their impacts. The Construction Environmental Risk Register will be provided to Caltex for review and updated as required by Caltex, prior to mobilisation to site.

The Construction Environmental Risk Register will be reviewed at least each six months and as required in response to incidents, changes in legal requirements, changes in project scope, findings of inspections and audits and management reviews.

At a task level, a Job Safety and Environmental Analysis (JSEA) or equivalent will be used by all personnel to identify potential risks and appropriate control measures prior to the commencement of any task.

Table 4-3: Aspects and impacts associated with construction activities

Category	Aspect	Impact	Legal and other Requirement	Control	Likelihood	Consequence	Residual Risk
Site Management	Poor practice	Potential for impact to waters	POEO Act 1997	Site Inspection and audit	Highly Unlikely	Slight	Negligible
Piling	Noise emissions	Noise emissions exceed specified levels or disrupt residents.	Consent Conditions C15, C16, C17, C18 and C19.	Construction Noise and Vibration Management Plan. Out-Of-Hours Work Protocol	Possible	Minor	Low
	Noise emissions	Noise emissions disturb marine fauna.	Consent Condition C6	Observations for marine fauna. Slow start-up procedure and cessation of work. DSDMP Section 8.4 and 8.5; CEMPs Section 8.3 and 8.4	Possible	Minor	Low
Pipe flushing	Spill or leak	Potential for impacts to waters	POEO Act 1997 EPL No 837	Equipment maintenance and testing in accordance with refinery operating procedures	Unlikely	Minor	Low
Materials delivery	Animal strikes	Barges or tug boats strike marine mega fauna	Consent Condition C6	Observations for marine fauna. Speed restrictions. DSDMP	Possible	Minor	Low

Category	Aspect	Impact	Legal and other Requirement	Control	Likelihood	Consequence	Residual Risk
				Section 8.4; CEMPs Section 8.3			
Equipment operation	Emission of pollutants and dust	Pollutants exceed specified air quality standards or dust generated.	Consent Condition C25, C26 POEO Act 1997	Air Quality Management Plan	Highly Unlikely	Slight	Negligible
	Hours operated	Noise outside regular work hours disrupts neighbours.	Consent Conditions C15, C16, C17, C18 and C19.	Out-Of-Hours Work Protocol	Highly Unlikely	Minor	Low
Washing of plant equipment on site	Wash areas not sealed or provided with secondary containment. Washing not conducted in designated areas.	Potential for impact to waters	POEO Act 1997	Wash in designated areas, isolated from storm water drains.	Highly Unlikely	Slight	Negligible
On site refuelling of equipment	Spills and/or leaks from refueling	Potential for impacts to waters	POEO Act 1997	Bunkering Plan approved by SPC	Highly Unlikely	Moderate	Low
Storage of hazardous dangerous goods	Spills and/or leaks from inadequate storage areas and secondary containment	Potential for impacts to waters	POEO Act 1997 National Standard for the Storage and Handling of Workplace Dangerous Goods [NOHSC: 1015	All goods stored in bunded location. Spill kit to be maintained and available onsite.	Unlikely	Minor	Low

Category	Aspect	Impact	Legal and other Requirement	Control	Likelihood	Consequence	Residual Risk
			(2001)] National Code of Practice for the Storage and Handing of Dangerous Goods [NOHSC: 2017 (2001)]				
Storage of waste material	Not using designated waste storage areas	Soil / Water contamination	POEO Act 1997	DSDMP Section 8.9; CEMPs Section 8.8	Unlikely	Slight	Low
	Not using designated waste storage areas	Recyclable materials to landfill	Waste Avoidance and Resource Recovery Act 2001 POEO (Waste) Regulation 2005	DSDMP Section 8.9; CEMPs Section 8.8	Highly Unlikely	Slight	Negligible
Disposal of waste materials	Control of materials	Waste to landfill, Illegal disposal	POEO Act 1997 Waste Avoidance and Resource Recovery Act 2001 POEO (Waste) Regulation 2005	DSDMP Section 8.9; CEMPs Section 8.8	Highly Unlikely	Moderate	Low

Category	Aspect	Impact	Legal and other Requirement	Control	Likelihood	Consequence	Residual Risk
Traffic	Transport of materials during construction. Increased truck and vehicle traffic flow through Kurnell. Vehicle movements and parking.	Disruption of local traffic and increased traffic congestion. Worker/vehicle conflicts and safety risks.	Consent Condition C27 Environmental Planning and Assessment Act 1979 Road Transport (Vehicle Registration) Regulation 2007 Road Act 1993 RTA Vehicle Standards Information Sheet No. 5 – Vehicle Dimension Limits	Construction Traffic and Access Management Plan	Unlikely	Minor	Low

5 LEGAL AND OTHER REQUIREMENTS

The Project will comply with all relevant Commonwealth and State legislative and regulatory requirements. Copies of relevant licences, approvals and permits will be held on site and in relevant project offices and on the Caltex intranet site.

All works associated with the construction of the upgrade to the wharf infrastructure will be carried out in accordance with the relevant requirements of:

- State Significant Development approval SSD_5353 under the NSW *Environmental Planning and Assessment Act 1979.*
- Permission to lodge (landowners consent) under the NSW Environmental Planning and Assessment Regulation 2000.
- Harbour Master Approval under the NSW Management of Waters and Waterside Lands Regulations 1972.
- Environment Protection Licence issued for miscellaneous licensed discharge to waters (at any time) under the NSW *Protection of the Environment Operations Act 1997.*
- Remediation action plan under *State Environmental Planning Policy No 55 - Remediation of Land.*
- A dredging licence under the NSW *Marine Services Act 1998.*
- A permit to sea dump under the Commonwealth *Environmental Protection (Sea Dumping) Act 1981.*

This CEMP and related Project procedures will be updated if necessary to meet future approvals and related conditions imposed on the Project.

6 ENVIRONMENTAL OBJECTIVES

The intent of this CEMP is to achieve the following overarching objectives:

- Ensure that all Caltex personnel and Contractors clearly understand their environmental obligations and receive appropriate training to perform their duties in a competent manner.
- Comply with all relevant Commonwealth and State environmental requirements.
- Comply with relevant Australian and other recognised standards.
- Aim for zero significant environmental incidents during construction as part of Caltex's Incident and Injury Free (IIF) operations.

Environmental performance objectives for each environmental element relevant to the construction works are set out in Section 8.

7 CEMP IMPLEMENTATION

7.1 Responsibilities and Authorities

Overall responsibility for the implementation of this CEMP rests with Caltex. All employees and Contractors will meet the requirements of this CEMP and associated procedures. Management actions stated in this CEMP may be delegated in writing by Caltex to specific Contractors. Delegation of the responsibilities allocated to the Environmental Representative is not permitted without the prior written approval of the Director General.

Key Project personnel including the Caltex Project Manager, Caltex Construction Supervisors, Caltex Environmental Management Representative (EMR), Environmental Representative, Contractor Project Manager and each Contractor's Environment / HSE Representative will ensure that all management actions are undertaken to a satisfactory standard and that all personnel are aware of their responsibilities with respect to environmental matters. There will be dedicated staff to manage environmental issues (or integrated HSE matters) during construction. A general outline of responsibilities in relation to environmental management is provided below:

Caltex Project Manager

- Overall accountability for the environmental management of the Project.
- Implementation of the Caltex Environmental Policy with respect to the Project.
- Overall responsibility for development, implementation, maintenance and compliance with this CEMP.
- Ensure a suitably qualified and experienced Environmental Representative is approved by the Director General prior to the commencement of construction and employed for the duration of construction [DCoA C34].
- Ensure the approved Environmental Representative is given the authority and independence required to carry out the responsibilities set out below [DCoA C34].
- Ensure contracts contain relevant environmental provisions.
- Review and sign off on this CEMP and subsequent revisions.

Caltex Construction Supervisors

- Accountable for construction related environmental matters within the scope of their work packages.
- Ensure the requirements of this CEMP are implemented in relation to their work packages.

Caltex Environmental Management Representative (EMR)

- Accountable for construction related environmental matters on the Project.

- Provide support to Caltex personnel and Contractors as required to ensure this CEMP is implemented and complied with.
- Provide advice to the Caltex Project Manager and Caltex Construction Supervisors to ensure compliance with legal requirements, achievement of environmental objectives and continual improvement in environmental performance.
- Review effectiveness and implementation of this CEMP.
- Review Contractor environmental management plans and registers, as required by this CEMP, to ensure environmental risks and opportunities are identified and managed.
- Monitor the implementation of all required environmental management actions and compliance with legislation.
- Undertake environmental auditing as required.
- Implement *Protection of the Environment Operations Act 1997* (POEO Act) notification requirements in the event of a pollution incident (these requirements can be delegated to appropriate personnel by the EMR).
- Regularly liaise with the Environmental Representative (where the roles of the Caltex Environmental Management Representative and the Environmental Representative are filled by different people).

Environmental Representative [DCoA C34]

- Principal point of advice in relation to the environmental performance of the Project.
- Monitor the implementation of environmental management plans and monitoring programs required under the Development Consent (SSD_5353) and advise the Caltex project Manager upon the achievement of these plans and programs.
- Advise Caltex on matters specified in the Development Consent (SSD_5353) and other licences and consents related to the environmental performance and impacts of the Project.
- Review and confirm whether works associated with the Project are classified as Construction (or not) under the Development Consent (SSD_5353) and if classified as Construction, advise on the relevant pre-Construction and Construction requirements that the works would be subject to under the consent.
- Approve or reject “minor amendments” to the CEMP. The Environmental Representative will consult with the Director General where uncertain as to whether an amendment to the CEMP constitutes a “minor amendment”.
- Require reasonable steps be taken to avoid or minimise unintended or adverse environmental impacts and failing the effectiveness of such steps, direct that relevant actions be ceased immediately should an adverse impact on the environment be likely to occur.

- Be consulted in responding to the community concerning the environmental performance of the Project where the resolution of points of conflict between Caltex and the community is required.
- Regularly liaise with the Caltex Environmental Management Representative (where the roles of the Caltex Environmental Management Representative and the Environmental Representative are filled by different people).

Caltex Emergency Response Team

- Implementation of the Emergency Response Plan in the event of an incident, including a pollution incident.
- Provide assistance to emergency services in notifying the community and businesses in the event of an incident.

Caltex Emergency Controller

- Authorise the allocation of resources and direction of activities.
- Responsible for the overall control of the emergency.

Contractor Project Manager

- Overall responsibility for the development and implementation of the Contractor's own project specific CEMP or integrated HSE Management Plan.
- Ensure compliance with the requirements of this CEMP throughout its works.
- Appoint an Environment or HSE Representative.

Contractor Environment / HSE Representative

- Implement the Contractor's own CEMP and related procedures.
- Comply with the requirements of this CEMP.
- Report fortnightly to the Caltex EMR on environmental performance, as required by this CEMP.

All Construction Personnel (Caltex and Contractors)

- Comply with the requirements of this CEMP.
- Report all environmental incidents as they occur.
- Attend environmental inductions or any other training as required.

7.2 Induction

Caltex has a site induction program that all contractors and employees are required to complete prior to undertaking any work. In addition to the standard site induction, Caltex will develop and deliver a

Project specific induction for all contractors and staff associated with the construction work. The Project specific induction will include the requirement for mandatory compliance with this CEMP by all personnel involved in wharf infrastructure upgrade construction activities and include emergency procedures for the Project site.

All Caltex employees and the Contractor are required to undertake the Caltex Project Induction before they can commence work on the Project.

7.3 Training

Relevant Caltex and Contractor personnel will have the experience and necessary training to carry out the tasked required for the implementation of this CEMP. This will include awareness of current Caltex environmental measures, including the appropriate use and maintenance of equipment.

Specific environmental training will be provided as relevant by Caltex, or delegated to relevant Contractors, including:

- Relevant existing Caltex environmental management measures.
- Spill kit use and management (refer Section 8.1).
- Marine fauna sighting, including the identification of marine turtles, cetaceans, pinnipeds and dugongs (refer Section 8.3).

The Contractor will implement appropriate training to ensure its personnel are aware of their environmental responsibilities, including requirements set out in their works-specific CEMP.

Caltex and the Contractor will each maintain a Training Register that records all environmental training completed by its personnel, including records of attendance at awareness training and toolbox talks, as well as competency assessments.

7.4 Internal Communication

Internal communications will include discussions, electronic communications and printed material as required. Caltex has communication systems in place that will be used as appropriate during the Project.

All environmental issues including incidents and near misses, as well as all health and safety incidents and near misses, will be raised as a regular component of toolbox talks, site meetings and transmitted electronically as necessary.

7.5 External Communication

Caltex is responsible for external communication in relation to matters concerning the environment. This includes but is not limited to communications with the media and government agencies and particularly in relation to external reporting of incidents that may have occurred. This excludes emergency calls, which may be made by anyone.

Caltex has prepared a Community Consultation Plan that will be implemented during the Project.

Caltex's consultation activities will continue throughout construction. This will involve meetings and letter box drops to the closest residents and user groups (including sailing, diving and recreational users), to describe the nature of the works, and to offer opportunity to provide feedback (refer Section 7.6). Information will be provided on Project updates, the program of works, scheduling of noise-generating activities and any atypical disruption or changes not anticipated in this EIS.

Consultation activities will be carried out with the following, as a minimum:

- The users of Silver Beach.
- The residents of the Ranger's House.
- The residents along Prince Charles Parade (No.s 2 to 174).
- The users of Kamay Botany Bay National Park.
- The users of the Botany Bay Educational Centre (located in the National Park).

External communication in response to emergencies and incidents is detailed in Section 7.6.

7.6 Incident Management

Caltex will continue to implement its existing incident management procedures, including for response to, investigation and reporting of incidents.

A comprehensive Emergency Management System is currently implemented at the Kurnell Refinery, with associated response and safety equipment held on site. Key personnel are trained to support the implementation of the system. Regular training exercises are carried out by Caltex.

The composition of the Caltex Emergency Management System is shown in Figure 7-1.

Figure 7-1: Caltex Emergency Management System Framework (source: Caltex Refinery PIRMP)

The POEO Act also requires that the holder of an Environment Protection Licence (EPL) prepare a Pollution Incident Response Management Plan (PIRMP). Accordingly, Caltex has developed and implements a PIRMP for the Kurnell Refinery.

The objectives of the Kurnell Refinery PIRMP are to:

- Ensure timely reporting of pollution incidents to: staff on the premises, the NSW Environment Protection Authority (EPA), Fire and Rescue NSW, NSW Ministry of Health, WorkCover NSW, local councils and people outside of the facility that may be affected by a pollution incident.
- Minimise and control the risk of a pollution incident at the facility by requiring identification of risks and the development of planned actions to minimise and manage those risks.

- Ensure that the plan is properly implemented by trained staff, identifying persons responsible for implementing it, and ensuring that the plan is regularly tested for accuracy, currency and suitability.

The relevant requirements of the Kurnell Refinery PIRMP have been incorporated into this CEMP. However, the responsibility for implementation of the POEO Act notification requirements in the event of a pollution incident has been placed on the Caltex EMR.

In the event of an incident or emergency situation, the relevant parts of the Caltex Emergency Management System Framework will be implemented. Construction works in the immediate area will cease immediately. The Caltex EMR will be contacted immediately and if required, emergency services will also be contacted.

In the event of an emergency, the Caltex EMR will notify the Refineries Emergency Response Team (ERT), who will implement the relevant parts of the Refinery Emergency Response Plan (STD 4.02.01.01). If required, the Caltex EMR will also notify the Kurnell Refinery Oil Spill Response Team (KROSRT), who will implement the relevant procedures within the Caltex Oil Spill Response Manual.

In the event of a spill the Contractor will undertake all relevant actions to contain the spill. Where the release of any pollutant occurs, the responsible Contractor will conduct a clean-up and remediation of the affected area to the satisfaction of Caltex.

Caltex will notify the Director General of any incident with actual or potential significant off-site impacts on people or the biophysical environment within 24 hours of becoming aware of the incident. Caltex will provide full written details of the incident to the Director General within seven days of the date on which the incident occurred [DCoA D8].

Caltex will meet the requirements of the Director General to address the cause or impact of any incident, as it relates to the Development Consent (SSD_5353), reported in accordance with Draft Condition of Approval D8, within such period as the Director General may require [DCoA D9].

The POEO Act notification requirements will be implemented by Caltex in response to any pollution incident that is causing or threatening material harm to the environment[1], as set out below and in Section 8.1.

[1] Section 147 of the POEO Act defines the meaning of material harm to the environment as follows:

(1) For the purposes of this Part:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Caltex will implement the POEO Act notification requirements, in the following order:

1. Call 000 if the incident presents an immediate threat to human health or property.
2. Notify the EPA (131 555).
3. Notify the Ministry of Health via the local Public Health Unit (9382 8333).
4. Notify WorkCover (131 050).
5. Notify Sutherland Shire Council (9710 0333).
6. Notify Fire and Rescue NSW (1300 729 579).

The relevant information to be given, as required under the POEO Act when notifying the pollution incident to the regulatory authorities is as follows:

a) Time, date, nature, duration and location of the incident.

b) Location of the place where pollution is occurring or is likely to occur.

c) The nature, the estimated quantity or volume and the concentration of any pollutants involved, if known.

d) The circumstances in which the incident occurred (including the cause of the incident if known).

e) Action taken or proposed to be taken to deal with the incident any resulting pollution or threatened pollution, if known.

f) When the information relating to items c), d) or e) is not known at the time of verbal notification, this information must be provided once it becomes available.

Complying with these notification requirements does not remove the need to comply with any other obligations for incident notification, for example, those that apply under other environment protection legislation or legislation administered by WorkCover.

It should be noted that the definition of “pollution incidents” under the POEO Act excludes noise. Odour is not required to be reported as a pollution incident under Part 5.7 of the POEO Act. Additionally, a person is not required to notify an incident if the incident is an ordinary result of action required to be taken to comply with an EPL, an Environment Protection Notice or other requirement of or made under the POEO Act.

All personnel on site at the refinery (employees and contractors) will be also informed of a site emergency that can include a pollution incident immediately via the Emergency Alarm, the public broadcast system and/or via electronic communication.

Members of the Kurnell Emergency Response Team and other personnel involved with the implementation of the emergency response plan related to the pollution incident will be notified by Pager and/or SMS as soon as the emergency has been identified.

As the refinery is located in close proximity to the community and businesses, the Caltex Emergency Response Team will provide assistance to emergency services in notifying the community and businesses in the event of an incident.

If necessary, prior to the arrival of emergency services this notification role will be delegated by the Caltex Emergency Controller. Communications tools such as phone calls, door knocking and letter box drops will be considered, as appropriate for the incident and its impact.

7.7 Complaint Management

Caltex has a complaint management procedure for the investigation, response and reporting of complaints.

Caltex manages all community complaints in accordance with the requirements of EPL issued for miscellaneous licensed discharge to waters (at any time) and EPL No. 837, including:

- Reporting complaints in the Annual Return for the relevant EPL.
- Keeping a legible record of all complaints made to Caltex and its Contractors, including:
    - The date and time of the complaint.
    - The method by which the complaint was made.
    - Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect.
    - The nature of the complaint.
    - The action taken by Caltex in relation to the complaint, including any follow-up contact with the complainant.
    - If no action was taken by Caltex, the reasons why no action was taken.
- The complaints record must be produced to any authorised officer of the EPA who asks to see it.
- The complaints record must be kept for at least four years after the complaint was made.
- Caltex must operate, during its operating hours, a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.
- Caltex must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

Caltex will operate its 24-hour hotline telephone number, a postal address and an email address (as below) to receive feedback and complaints associated with the Project.

Complaints, enquires and feedback regarding the Project can be made through the following channels [DCoA D3; DCoA D6(g); EPL Condition M5.1]:

- 24-hour telephone number: 1800 802 385 toll free
- Email address: kurnell@caltex.com.au
- Postal address: Caltex Refineries (NSW) Pty Ltd
  Locked Bag 2000
  Taren Point NSW 2229

All feedback and complaints will be provided to the Caltex EMR and relayed to the Refinery Manager, Community Relations Manager and the head of the Environmental Group, as relevant depending on their nature.

Any feedback and complaint records will be logged in the Complaints Register, tracked and where relevant, responded to. Responses to complaints will be made, where reasonably possible, within 48 hours of receiving the complaint.

7.8 Audit and Compliance Management

Regular audits, including independent audits, will be carried out to confirm compliance with environmental policies and standards.

Project site audits will be conducted according to the Project Audit Schedule. The Project Audit Schedule will detail proposed dates for the audits and inspections at all work sites across the Project and the personnel involved in the audits and inspections. The Project Audit Schedule will be a live document and will be modified from time to time to suit the changing construction activities and risks. The Project Audit Schedule will be risk based and higher risk activities will be the subject of increased audit and inspection. Independent audits will be conducted every two weeks during high risk activities, including piling, and monthly at all other times.

Audits may be conducted as integrated HSE audits or specific environmental audits. The Contractor will conduct environmental or integrated HSE audits at least monthly. The Contractor will submit copies of completed audit forms to the Caltex EMR on a monthly basis.

Implementation of this CEMP will be audited by Caltex within six weeks of the commencement of site construction works for the wharf infrastructure upgrade.

Audit findings will be recorded in a Corrective Actions Register for action and close out. The Corrective Actions Register will detail the source of the action (i.e. audit, inspection or other), the action required, target close out date, actual close out date and the person responsible for the action item.

7.8.1 External Audits

External audits and inspections of the Project may be conducted by government agencies to ensure compliance with permits and licences as well as commitments made in the Project EIS and Submissions Report. For such audits and inspections, the Caltex EMR will accompany the auditors at all times.

The findings and recommendations arising from external audits will be recorded in the Corrective Actions Register and managed to close out in agreed timeframes.

Personnel will be notified of known upcoming external audits and inspections through notification on the central notice board and through the relevant Manager.

7.8.2 CEMP Review

This CEMP is based on the relevant information and requirements set out in the Project EIS (URS 2013), Submissions Report (URS 2013a), Draft Development Consent (DP&I 2013) and the Draft EPL issued for miscellaneous licensed discharge to waters (at any time).

Any relevant changes between the draft and final conditions of development consent and the EPL must be incorporated into the CEMP. Relevant conditions of the Sea Dumping Permit must also be incorporated into the CEMP. This CEMP will be reviewed at least each six months and in response to audits, incidents and changes to the scope of works, as relevant. Any changes will be formally communicated by Caltex to all construction personnel.

8 ENVIRONMENTAL PROCEDURES

Specific control measures required to undertake the construction works are set out in Sections 8.1 to 8.8. These measures will be complied with by all Caltex personnel and Contractors as relevant. The Performance Objectives, Management Actions, Performance Indicators, Monitoring, Reporting and Corrective Actions set out in the following sections that are required by the EIS (URS 2013) are marked with an asterisk (*).Additional requirements set out in the Submissions Report (URS 2013a) are marked with a cross ($^{+}$).

All activities must be carried out in a competent manner. Suitable equipment, facilities, training, work practices and other necessary precautions will be taken to minimise impacts to the environment and the risk of pollution. All plant and equipment installed used for the Project must be maintained in a proper and efficient condition and operated in a proper and efficient manner.

Caltex will monitor the Department of Planning and Infrastructure's Major Project Register and , Sutherland Shire Council's, Randwick City Council's, Rockdale City Council's and Botany Bay Council's development assessment tracking systems on their respective websites, to identify other development activities that are approved to take place within Botany Bay and coincide with the Project. Caltex will assess, and where identified, advise the Contractor of any additional measures required to manage interactions or cumulative impacts from concurrent development activities [DCoA C35(e)(xi)].

All Caltex personnel and Contractors will implement reasonable and practicable measures to avoid or minimise impacts to the environment that may arise from the Project. All Caltex personnel and Contractors will ensure that work is performed in a way that minimises impacts on the natural environment and complies with this CEMP and related procedures, relevant legislation, regulations and rules, Project licences, approvals and Project commitments made by Caltex.

8.1 Water and Sediment Quality

Element	Water and Sediment Quality
Performance Objectives	*To prevent the pollution of water and the generation of excessive turbidity.* *To minimise the environmental impact of any spills and excessive turbidity that occur.*
Management Actions	▪ The contractor will implement all feasible and reasonable mitigation and management measures for the duration of construction to minimise the dispersion of dissolved and sediment-bound tributyltin (TBT) and suspended sediment concentrations outside the Project site during construction [DCoA C2]. ▪ Contractors will maintain the site in a clean and tidy state. ▪ The site should be swept clean, rather than washed down with water. ▪ Water used to clean equipment should not be allowed to flow directly into Botany Bay, instead it should be allowed to filter through hessian sacks or similar. ▪ Contractors will ensure that any waste is disposed of appropriately and no items fall into the surrounding water. ▪ Fabrication will be undertaken off-site as far as possible. ▪ Impermeable ground sheets and / or shrouding (comprising shade cloth or similar) should be utilised immediately below and adjacent to demolition works where practicable to prevent debris entering the water. ▪ Impermeable ground sheets and shrouding should be carefully collected (to contain any captured material), bagged and removed on completion of work in each area. No debris will be allowed to enter the water. ▪ Biodegradable oil will be used within the pile rig.* ▪ Vessels and equipment will be maintained in good working order to minimise the risk of leaks and spills. ▪ Regular servicing and maintenance of construction equipment will be scheduled and carried out by the relevant Contractor.*

Element	Water and Sediment Quality
	▪ Pre start checks will be undertaken prior to commencement of piling to ensure equipment is operating correctly.* ▪ Ships used during construction works will be subject to the controls to limit pollution and spill risks currently in place for ships berthing at the Kurnell Wharf.* ▪ Contractors will ensure their construction activities conform to the requirements of the MARPOL Convention, with regard to the statutory controls placed on ships to prevent marine pollution.* ▪ Except as expressly provided in the EPL issued for miscellaneous licensed discharge to waters (at any time), Contractors will ensure their construction activities conform to the pollution prevention requirements set out under Section 120 of the POEO Act [DCoA C1; EPL Condition L1.1].* ▪ Caltex will make all Contractors aware of Caltex's Emergency Response Plan (STD 4.02.01.01) and Oil-spill Callout and Response Work Procedure (PROC 120.05.001). ▪ Contractors will be familiar with and adhere to the Caltex Emergency Response Plan (STD 4.02.01.01) and Oil-spill Callout and Response Work Procedure (PROC 120.05.001).* ▪ Appropriate spill kits and booms will be available on the wharf and aboard barges and workboats actively involved in the construction works.* ▪ Spill kits will be tailored to the type and volume of potential spills and will include, as a minimum: • Absorbent pads. • Spill containment booms. • Personal protection equipment. • Contaminated waste bags and ties. • Instruction sheets. ▪ All spills will be stopped at the source and contained as soon as possible. ▪ Spilt material will be recovered, where possible, and contaminated spill recovery materials will be collected and disposed at an appropriate licensed facility.

Element	Water and Sediment Quality
	▪ In the event of a spill, incident or emergency, construction activities in the immediate area will cease immediately.* ▪ In the event of a spill, incident or emergency, the Caltex EMR and if required, emergency services (000), will be contacted immediately. ▪ In the event of a spill, incident or emergency, the Caltex EMR will notify the Refineries Emergency Response Team (ERT) and/or the Kurnell Refinery Oil Spill Response Team (KROSRT), as relevant. ▪ The Refineries ERT will implement the relevant parts of the Refinery Emergency Response Plan (STD 4.02.01.01). ▪ The KROSRT will implement the relevant procedures within the Caltex Oil Spill Response Manual. ▪ In the event of a spill, the Contractor will undertake all relevant actions to minimise and contain the spill. ▪ Where the release of any pollutant occurs, the responsible Contractor will conduct a clean-up and remediation of the affected area to the satisfaction of Caltex. ▪ Where a pollution incident occurs that is causing or threatening material harm to the environment[2], Caltex will implement the POEO Act notification requirements, in the following order:

[2] Section 147 of the POEO Act defines the meaning of material harm to the environment as follows:

(1) For the purposes of this Part:

(a) harm to the environment is material if:

(i) it involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or

(ii) it results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding $10,000 (or such other amount as is prescribed by the regulations), and

(b) loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

(2) For the purposes of this Part, it does not matter that harm to the environment is caused only in the premises where the pollution incident occurs.

Element	Water and Sediment Quality

1. Call **000** if the incident presents an immediate threat to human health or property
2. Notify the EPA (131 555)
3. Notify the Ministry of Health via the local Public Health Unit (9382 8333)
4. Notify WorkCover (131 050)
5. Notify Sutherland Shire Council (9710 0333)
6. Notify Fire and Rescue NSW (1300 729 579)*

- In the event of a spill that requires use of spill kits or deployment of booms, the Caltex EMR will notify Sydney Ports Corporation (SPC) as soon as practicable.
- Following a spill, accident or emergency situation, the Contractor will undertake any relevant required repairs and modify their working methods as appropriate.
- Contractors will develop and implement a works-specific Spill Control Plan (SCP) that incorporates the requirements of this CEMP and the following:
    - The requirement for staff to understand the limitations, controls, and methods to manage and prevent spills
    - The protocol for reporting spills and the consequential actions to cease works immediately
    - The need for regular inspections by the works' contractor to ensure the adoption of the relevant spill-management controls
    - The need to plan for regular equipment maintenance
    - The requirement for spill containment provisions to be available to support the proposed works*
- Relevant Caltex and Contractor personnel will be trained in the implementation of the SCP, including the use and management of spill kits and booms. The training will also include the limitations, controls and methods to prevent and manage spills.*

Element	Water and Sediment Quality
	▪ Personnel trained in implementation of the SCP will be required to confirm (by signing the Training Register) that they understand the limitations, controls and methods to prevent and manage spills, as set out in the training provided.
Performance Indicators	▪ No turbid plumes visually detectable outside the Project Site. ▪ Spill response procedures implemented in accordance with the relevant works-specific SCP.* ▪ Regular maintenance of construction equipment scheduled and carried out by the relevant Contractor.
Monitoring	▪ Visual inspections for turbid plumes will be carried out daily during works involving disturbance to the sea bed. ▪ The Contractors will carry out regular inspections of its works areas to ensure the SCP is being implemented.*
Reporting	▪ Caltex will report all relevant complaints, spills and incidents under the terms of the current EPL issued for miscellaneous licensed discharge to waters (at any time) or EPL No. 837 (as relevant).* ▪ Caltex, with assistance from Contractors as relevant, will prepare an incident investigation report for all incidents.
Corrective Action	▪ Where turbid plumes are visually detected outside the Project Site, the results of the Project Sediment and Water Quality Monitoring Program will be reviewed and where parameters exceed the relevant trigger levels, the potential for use of silt curtains will be investigated by the Contractor, in consultation with Caltex. ▪ Where spill response procedures are not being implemented in accordance with the relevant works-specific SCP, Contractors will review and revise their SCP and provide further training as relevant.

8.2 Aquatic Flora and Weeds

Element	Aquatic Flora and Weeds
Performance Objective	*To minimise impacts to native marine and terrestrial flora and prevent the introduction of new introduced marine flora, including* Caulerpa taxifolia*.*
Management Actions	▪ Mitigation and management measures will be implemented during construction work within the waters of Botany Bay to avoid the introduction or spread of pest flora species, including *Caulerpa taxifolia* consistent with the *NSW Control Plan for the Noxious Marine Alga Caulerpa taxifolia* (DII 2009) [DCoA C5]. ▪ The Contractor (in consultation with Caltex) will liaise with DPI (Fisheries) and review the Marine Pests website (http://www.marinepests.gov.au/home) to identify any reported pest specifically affecting Botany Bay immediately prior to and during the proposed works.+ ▪ If required, the Contractor (in consultation with Caltex) will undertake further discussion with DPI (Fisheries) and the Department of Agriculture, Fisheries and Forestry (DAFF) to agree on additional management actions to be implemented during construction.+ ▪ Contractors will carry out regular inspections of the construction works areas and equipment to check for the presence of *Caulerpa taxifolia*.* ▪ Caltex will enable regular inspections of the Project Site by DAFF to check for the introduction of marine pest species.* ▪ No 'high risk' (refer DAFF 2011) ballast water or sediments from ballast tanks will be discharged in to Botany Bay.* ▪ Ballast water will be controlled in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).* ▪ No ballast water discharge is permitted within 12 nautical miles of the coast. Prior to discharge, the relevant Contractor will ensure the ballast waters contain no marine pest species.+

Element	Aquatic Flora and Weeds
	▪ Each construction ship will implement a Ballast Water and Sediment Management Plan that sets out controls to manage ballast and bilge waters in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).* ▪ No clearing of, or disturbance to, seagrass beds is permitted.* ▪ No clearing of, or disturbance to, native terrestrial vegetation is permitted.*
Performance Indicators	▪ No introduction or spread of *Caulerpa taxifolia*. ▪ No clearing of, or disturbance to, seagrass beds or native terrestrial vegetation.
Monitoring	▪ Regular inspections of construction works areas and equipment carried out to check for the presence of *Caulerpa taxifolia*.*
Reporting	▪ The dates and outcomes of *Caulerpa taxifolia* inspections will be reported by the Contractor to the Caltex EMR fortnightly.
Corrective Action	▪ Where any signs of Caulerpa taxifolia are present, the Contractor will notify the Caltex EMR and implement responsible and careful treatment to prevent its spread or transfer to other areas of Botany Bay. Such measures will be consistent with the *NSW control plan for the noxious marine alga Caulerpa Taxifolia* (DII 2009).*

8.3 Marine Fauna

Element	Marine Fauna
Performance Objective	*To minimise injury to or death of fauna and minimise loss of fauna habitat.*
Management Actions	▪ Native fauna will be protected at all times and will not be fed, harassed or otherwise interfered with. ▪ Mitigation and management measures will be implemented during construction work within the waters of Botany Bay to avoid the introduction or spread of pest fauna species [DCoA C5]. ▪ The Contractor (in consultation with Caltex) will liaise with NSW DPI (Fisheries) and review the Marine Pests website (http://www.marinepests.gov.au/home) to identify any reported pest specifically affecting Botany Bay immediately prior to and during the proposed works.+ ▪ If required, the Contractor (in consultation with Caltex) will undertake further discussion with NSW DPI (Fisheries) and DAFF to agree on additional management actions to be implemented during construction.+ ▪ Feral animals will not be encouraged to enter or remain in the Project Site through feeding, access to artificial waterbodies or inadequate waste disposal practices. ▪ Pipe ends will be capped during pipe-laying works to prevent fauna getting caught in pipes. Uninjured trapped fauna will be released to a nearby area of suitable habitat. ▪ Contractors will maintain the site in a clean and tidy state. ▪ Contractors will ensure that any waste is disposed of appropriately and no items fall into the surrounding water. ▪ Caltex will enable regular inspections of the Project Site by DAFF to check for the introduction of marine pest species.* ▪ Lighting on construction ships and equipment will be minimised to that required for safe operations and to meet regulatory navigational safety requirements.* ▪ Construction lighting will be positioned to prevent excess light spill into areas that are not required to be lit.*

Element	Marine Fauna
	▪ No 'high risk' (refer DAFF 2011) ballast water or sediments from ballast tanks will be discharged in to Botany Bay.* ▪ Ballast water will be controlled in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).* ▪ No ballast water discharge is permitted within 12 nautical miles of the coast. Prior to discharge, the relevant Contractor will ensure the ballast waters contain no marine pest species.+ ▪ Each construction ship will implement a Ballast Water and Sediment Management Plan that sets out controls to manage ballast and bilge waters in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).* ▪ Trained marine fauna spotters (monitors) will be used to make observations for marine turtles, cetaceans, pinnipeds and dugongs up to a distance of 420 m from active piling areas.* ▪ If marine turtles, cetaceans, pinnipeds or dugongs are observed within 250 m of active piling areas, there is to be a temporary cessation of noise generating activities.* ▪ Noise generating activities will not recommence until 30 minutes after the animal has moved more than 250 m away, or 30 minutes after the animal was last sighted.* ▪ Slow start up measures will be used for all construction activities that generate underwater noise to ensure any noise-sensitive marine fauna are able to move away from the noise source.*
Performance Indicators	▪ No noise generating activities associated with piling works whilst marine turtles, cetaceans, pinnipeds or dugongs are within 250 m of active piling areas.* ▪ No fauna deaths directly associated with construction activities.

Element	Marine Fauna
Monitoring	▪ Marine fauna monitoring will be used to make observations for marine turtles, cetaceans, pinnipeds and dugongs up to a distance of 420 m from active piling areas prior to start up and throughout piling works.*
Reporting	▪ All fauna injuries or deaths will be reported to the Caltex EMR as soon as practicable. ▪ Caltex will report injuries or deaths of threatened fauna to OEH and / or the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC), as relevant. ▪ Marine fauna monitors will utilise a Marine Fauna Sighting Log to record observations of marine turtles, cetaceans, pinnipeds or dugongs and any required actions taken (i.e. delay in start of work, standby or temporary cessation of works).* ▪ The dates and outcomes of marine fauna monitoring will be reported by the Contractor to the Caltex EMR fortnightly. ▪ Caltex will notify the whale migratory team within the NSW Office of Environment and Heritage (OEH) of whale sightings between June and October, during the construction period.*
Corrective Action	▪ If fauna is injured during construction, the Contractor will contact the Caltex EMR who will contact WIRES (1300 094 737) or Orrca Marine Mammal Rescue (for whales, dolphins, seals and dugongs) (9415 3333), which both operate 24 hours a day seven days a week.

8.4 Noise and Vibration

Element	Noise and Vibration
Performance Objective	*To minimise disturbance to sensitive receivers and marine fauna from airborne and underwater noise.*
Management Actions	▪ Marine fauna monitoring will be carried out as detailed in Section 8.3.* ▪ Noise generation will be managed within regulatory and licence requirements. ▪ All construction activities (except sub berth works) will be restricted to the standard working hours set out in the Interim Construction Noise Guideline (ICNG), being • 0700 and 1800 Mondays to Fridays inclusive; • 0800 to 1300 Saturdays; and • at no time on Sundays or public holidays.* ▪ Sub berth construction activities may be undertaken on Saturdays and Sundays between the hours of 0800 and 1800.* ▪ Fabrication will be undertaken off-site as far as possible. ▪ Vessels and equipment will be maintained in good working order to minimise noise. ▪ Regular maintenance of construction equipment will be scheduled and carried out by the relevant Contractor.* ▪ Slow start up measures will be used for all construction activities that generate underwater noise to ensure any noise-sensitive marine fauna are able to move away from the noise source.* ▪ All feasible and reasonable noise mitigation measures will be implemented during construction works, with the aim of achieving the construction noise management levels ($L_{Aeq(15min)}$) set out in the following table (in accordance with the ICNG) [DCoA C17].*

Element **Noise and Vibration**

Sensitive Receptors	Standard Hours (Mon-Fri: 0700-1800 and Sat 0800-1300)		Outside Standard Hours (sub berth works only)
	Noise Affected Management Level $L_{Aeq(15min)}$ [RBL + 10]	Highly Noise affected Level $L_{Aeq(15min)}$	Noise Affected Management Level $L_{Aeq(15min)}$ [RBL + 5]
Residential dwellings at Nos. 2 – 174 Prince Charles Parade	51 dB(A)	75 dB(A)	46 dB(A)
Ranger's House	51 dB(A)	75 dB(A)	46 dB(A)
Silver Beach (Passive recreational area)	60 dB(A) (when facilities are being used)		
Kamay Botany Bay National Park (Active recreational area)	65 dB(A)+ (when facilities are being used)		
Environmental Botany Bay Education Centre (Educational institutions	55 dB(A)* (when facilities are being used)		
*A 10 dB(A) allowance has been made to account for the internal and external noise levels for building other than residences.			

- During piling works, noise levels along Prince Charles Parade and at the Ranger's residence at Kamay Botany Bay National Park (Figure 8-1) will be maintained below or equal to $L_{Aeq(15min)}$ = 53 dB(A).*
- During works outside of standard working hours, noise levels along Prince Charles Parade and at the Ranger's residence at Kamay Botany Bay National Park will be maintained below or equal to $L_{Aeq(15min)}$ = 46 dB(A).
- Piling operations with a SWL of 113 dB(A) or less should be utilised wherever possible.*

Element	Noise and Vibration
	▪ Noise levels during piling works will be maintained within the following limits: • Calculated 15-minute sound power levels (SWLs) $L_{w,eq,15min}$ less than or equal to 113 dB(A) at source. • Measured 15-minute sound pressure levels (SPLs) $L_{p,eq,15min}$ less than or equal to 85 dB(A) measured at 10 m from the source in-situ or in a similar location where the works are to be carried out.* ▪ Noise measurements will be carried out by a qualified acoustics consultant (i.e. a member of the Australian Acoustical Society (AAS) or the Association of Australian Acoustical Consultants (AAAC)) and undertaken in accordance with relevant Australian Standards for acoustic measurement of equipment in the field.* ▪ Caltex will specifically consult with the residents of Prince Charles Parade and other local community groups ahead of starting the piling works.* ▪ Construction will be carried out with the aim of achieving the following construction vibration goals: • for structural damage: the vibration limits set out in the German Standard DIN 4150-3: Structural Vibration - effects of vibration on structures; • for human exposure: the acceptable vibration values set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006) [DCoA C19]. ▪ Any additional requirements of the Project Construction Noise and Vibration Management Plan (Caltex 2013b; available on the Caltex intranet) relevant to dredging will be implemented [DCoA C36(b)].
Performance Indicators	▪ No exceedences of the Noise Affected Management Level of $L_{Aeq(15min)}$ = 46 dB(A) at sensitive receptors (Figure 8-1) during works outside of standard working hours (sub berth works only). ▪ Works carried out within the required hours.* ▪ No piling whilst cetaceans, pinnipeds or dugongs are within 250 m of active piling areas.*

Element	Noise and Vibration
Monitoring	▪ Where sub berth works are undertaken outside the standard working hours set out in the ICNG (i.e. outside the hours 0700 to 1800 Monday to Friday and 0800 to 1300 Saturdays), monthly attended noise monitoring will be carried out to verify noise levels along Prince Charles Parade and at the Ranger's residence at Kamay Botany Bay National Park are below or equal to $L_{Aeq(15min)}$ = 46 dB(A).* ▪ Attended noise monitoring will be carried out along Prince Charles Parade and at the Ranger's residence at Kamay Botany Bay National Park at the commencement of and monthly during high noise generating works (piling works) to ensure compliance with required levels [DCoA C18].† ▪ Marine fauna monitoring will be used to make observations for marine turtles, cetaceans, pinnipeds and dugongs up to a distance of 420 m from active piling areas prior to start up and throughout piling works.*
Reporting	▪ The Contractor will report the SWL of the piling operations to the Caltex EMR prior to commencement of piling.* ▪ The dates and outcomes of monthly attended noise monitoring for sub berth works outside of standard working hours will be reported by the Contractor to the Caltex EMR as soon as results are available. ▪ The dates and outcomes of noise monitoring for high noise generating works (piling works) will be reported by the Contractor to the Caltex EMR as soon as results are available. ▪ The dates and outcomes of marine fauna monitoring will be reported by the Contractor to the Caltex EMR fortnightly.
Corrective Action	▪ Where the SWL of the piling operations, as reported by the Contractor, is higher than that used in the noise modelling set out in the EIS (117 dB(A)), Caltex will give consideration to additional modelling and the potential for implementation of additional noise mitigation measures. ▪ Additional noise management controls for sub berth works may include further liaison with affected residents or restriction of noisy activities (such as grinding, cutting and the use of compressors and generators) to within standard working hours.

Element	Noise and Vibration
	▪ If high noise generating works (piling works)are shown to exceed the required noise limits, or if noise complaints are received, additional mitigation in line with the ICNG will be implemented by the Contractor (in consultation with Caltex) for these activities, such as: • The use of dampening non-metallic dollies (wooden blocks) for piling. • Acoustic screening for high noise equipment. • Implement respite periods in undertaking high noise generating works (piling works). For example, piling for three hours and stopping for one hour [DCoA C18].

Figure 8-1: Noise sensitive receptors in the vicinity of the Project Site

8.5 Air and Odour Emissions

Element	Air and Odour Emissions
Performance Objective	*To prevent a decrease in regional air quality and to prevent visible emissions of dust from the site.*
Management Actions	▪ All feasible and reasonable mitigation measures will be implemented to ensure that construction is carried out in a manner that minimises dust emissions from the site [DCoA C26]. ▪ Dust control measures will be implemented wherever relevant throughout construction works. ▪ Material stockpiles that have the potential to generate dust will be covered. ▪ Material loads that have the potential to generate dust will be covered during transport. ▪ Dust generating activities will not be carried out during periods of high wind. ▪ Contractors will notify the Caltex EMR of any anomalous odours identified during construction.* ▪ Vessels and equipment will be maintained in good working order to minimise air emissions. ▪ Regular maintenance of construction equipment will be scheduled and carried out by the relevant Contractor.* ▪ Vehicles, vessels and equipment, including generators, will be turned off when not in use. ▪ Any additional requirements of the Project Air Quality Management Plan (Caltex 2013a; available on the Caltex intranet) relevant to dredging will be implemented [DCoA C36(c)].
Performance Indicators	▪ No air quality or odour complaints received.
Monitoring	▪ Contractors will carry out regular visual monitoring to identify areas generating visible dust emissions from the site. ▪ Contractors will carry out regular visual monitoring to identify equipment producing excessive visible emissions.

Element	Air and Odour Emissions
	▪ Contractors, in collaboration with Caltex, will develop and implement an appropriate monitoring strategy where anomalous odours are identified.
Reporting	▪ The dates and outcomes of visual dust and emissions monitoring will be report by the Contractor to the Caltex EMR fortnightly.
Corrective Action	▪ Contractors, in collaboration with Caltex, will develop and implemented appropriate management measures where anomalous odours are identified. ▪ Where visible dust emissions from the site are observed, feasible and reasonable dust mitigation measures will be identified and implemented, such as: • Sources of dust emissions will be covered, or if required, wet down, such that emissions of visible dust from the site cease. • Cessation of dust generating works, as appropriate, such that emissions of visible dust from the site cease. ▪ Equipment observed to be creating excessive emissions will be replaced or serviced within 48 hours.

8.6 Heritage

Element	Heritage
Performance Objective	*To protect and preserve Indigenous and Non-Indigenous heritage sites and values.*
Management Actions	▪ Contractors will maintain the site in a clean and tidy state and implement dust and emission control measures (as detailed in Section 8.5) to minimise the visual impact of construction activities to areas of heritage significance, including the Kurnell Peninsula Headland. ▪ Water and sediment quality management actions will be implemented (as detailed in Section 8.1) to minimise the potential for impacts to areas adjacent to heritage sites.
Performance Indicators	▪ Suspected heritage item are dealt with in accordance with the required sequence of corrective actions.*
Monitoring	▪ Works to the sea bed will be visually monitored for the presence of potential heritage items.
Reporting	▪ Details of the discovery of any suspected heritage items will be reported to the Caltex EMR as soon as practicable.
Corrective Action	▪ In the event that a suspected heritage item (Indigenous and Non-Indigenous) is encountered, construction activities in the immediate area will cease and any further disturbance to the area of the item prevented.* ▪ The discoverer of the item will notify machinery operators in the immediate vicinity of the item so that work can be halted. ▪ Contractors will immediately contact the Caltex EMR, who will notify: • OEH (Heritage Council of NSW) in accordance with the requirements of Section 146 of the *Heritage Act 1977* in the case of a suspected Non-Indigenous heritage item [DCoA C23].* • OEH in accordance with the requirements of section 89A of the *National Parks and Wildlife Act 1974* in the case of a suspected Indigenous heritage item [DCoA C24].

Element	Heritage
	▪ The police will be contacted immediately if human remains are uncovered. ▪ In consultation with OEH, the Caltex EMR will arrange for assessment (including the approximate extent, nature, associated archaeological potential and likely significance) of the suspected heritage item by a suitably qualified archaeologist.* ▪ An appropriate management strategy for recording and preservation of the item (if warranted) will developed, along with a strategy to return to work as far as possible.* ▪ Works in the immediate area will not resume until approved in writing by the Caltex EMR.

8.7 Marine and Construction Traffic

Element	Marine and Construction Traffic
Performance Objective	*To minimise traffic interactions and appropriately manage traffic interfaces.*
Management Actions	▪ Designated construction access route for the delivery of materials for construction purposes to and from Kurnell Wharf and the Kurnell Refinery will be via Captain Cook Drive, Prince Charles Parade and Solander Street [DCoA C27].*All feasible and reasonable mitigation measures will be implemented to ensure that material is not tracked onto public roads [DCoA C26]. ▪ All vehicles will observe the sign-posted speed limits. ▪ Vehicles will only be parked in designated areas. ▪ A Traffic Management Plan (TMP) will be developed and implemented for concrete pouring works. The TMP will comply with all relevant regulations and bylaws and in particular address safe access and egress to Prince Charles Parade when arriving and leaving the wharf and/or laydown area.* ▪ All ships used for the proposed works will hold current certifications in accordance with their class and function.* ▪ All ship crew will be fully qualified and trained for their respective roles.* ▪ All ships will be operated in full accordance with international, Commonwealth and State navigational safety and environmental protection standards and regulations.* ▪ All ships will have an on-board Ship-Oil Pollution Emergency Plan (SOPEP) or equivalent applicable to their class. ▪ Caltex will make all Contractors aware of the management and interfacing requirements with shipping and the port operations resulting from its discussions with NSW Roads and Maritime Services (RMS) and SPC.* ▪ Caltex will make all Contractors aware of current practices and standard controls for shipping activities, including SPC Harbour Control being notified of all shipping movements.*

Element	Marine and Construction Traffic
	▪ Contractors will be familiar with and adhere to Caltex's current practices and standard controls for shipping activities.* ▪ Caltex will revise its Shipping and Planning Procedure to accommodate the construction works.* ▪ Marine vessels not in use will be moored. ▪ A Port Operating Procedure (POP) will be developed by relevant Contractors (as determined by Caltex) in accordance with the relevant regulations and in conjunction with SPC and RMS.* ▪ A Marine Works Management Plan (MWMP), will be developed by the relevant Contractors (as determined by Caltex) to support the POP.* ▪ The MWMP will include appropriate safety controls that accord with the requirements of the Harbour Master and the SPC's Port Procedures Guide to ensure the safety of waterway traffic during construction works.* ▪ Caltex will liaise with the Harbour Master throughout the construction works to communicate its intended shipping schedules, movements, timings and pilotage requirements.* ▪ The Contractor will make its shipping schedules available to Caltex for use in liaison with the Harbour Master. ▪ The existing Marine Security (exclusion) Zone around the Kurnell Wharf will remain in place throughout construction works. ▪ Temporary exclusion zones of a 100 m radius around construction vessels will be established and managed by Caltex, in consultation with NSW RMS, SPC and the NSW Water Police, when workingoutside the existing Marine Security (exclusion) Zone.* ▪ Recreational and commercial vessels will be required to remain outside the Temporary Marine Security Zones. ▪ Caltex will notify the community and relevant stakeholders of the temporary exclusion zones in accordance with the methods set out in Section 7.5.

Element	Marine and Construction Traffic
	▪ Where practicable, construction works will be timed by Caltex to avoid activities and events identified by sailing, diving and recreational user groups that are likely to occur within or close to the Project Site during the construction works, or activities and events relocated.* ▪ Any additional requirements of the Project Construction Traffic and Access Management Plan (Caltex 2013c; available on the Caltex intranet) relevant to dredging will be implemented [DCoA 36(d)].
Performance Indicators	▪ No collisions caused by Project construction vessels. ▪ Harbour Master provided with advance copies of all construction related shipping schedules.* ▪ POP and MWMP developed and implemented by relevant Contractors.*
Monitoring	▪ The Caltex EMR will monitor compliance with the management and interfacing requirements with shipping and the port operations.
Reporting	▪ Collisions or near misses will be reported in accordance with incident reporting procedures set out in Section 7.6.
Corrective Action	▪ Collisions will be managed in accordance with incident management procedures set out in Section 7.6.

8.8 Waste and Resource Management

Element	Waste and Resource Management
Performance Objectives	*To minimise the wastes generated and resources used throughout the life of the proposed works, and maximise opportunities for reduction, reuse and recycling.* *To store, handle, transport, and employ resources/dispose of waste in a manner that does not lead to environmental harm, pollution or contamination.*
Management Actions	▪ Any waste generated outside the site will not be caused, permitted or allowed to be received at the site for storage, treatment, processing, reprocessing, or disposal on the site, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*, if such a licence is required in relation to that waste [DCoA C31]. ▪ All liquid and/or non-liquid waste generated on the site will be assessed and classified in accordance with Waste Classification Guidelines (DECC, 2008), or any future guideline that may supersede that document and where removed from the site is only directed to a waste management facility lawfully permitted to accept the materials [DCoA C33]. ▪ Resource use and waste generation will be minimised and all waste will be reused, recycled or disposed of in accordance with best practice and relevant legislation [DCoA C32]. ▪ The Contractor will maintain the site in a clean and tidy state. ▪ The Contractor will ensure that any waste is disposed of appropriately and no items fall into the surrounding water. ▪ The discharge of any solid waste overboard is prohibited. ▪ Impermeable ground sheets and / or shrouding (comprising shade cloth or similar) should be utilised immediately below and adjacent to demolition works where practicable to prevent debris entering the water.

Element	Waste and Resource Management
	▪ Impermeable ground sheets and shrouding should be carefully collected (to contain any captured material), bagged and removed on completion of work in each area. No debris will be allowed to enter the environment. ▪ Waste oil, solvents and toxic material will be collected in appropriate, labelled containers for reuse, recycling, treatment or disposal at approved licensed locations. ▪ All ship generated wastes will be brought ashore for disposal via a licensed contractor. ▪ The following waste hierarchy will be implemented: • Avoid waste by identifying appropriate materials and effective procurement. • Reduction of waste by optimising construction and operation methods. • Reuse waste by identifying sources that can utilise the waste. • Recycle waste by identifying facilities that are able to recycle waste. • Recover energy from waste. • Dispose of waste at an appropriate licensed facility. ▪ Construction activities will be integrated into existing resource efficiency, waste management and handling, emergency response and preparedness plans for the port and berthing facility.* ▪ The Contractor will prepare a works-specific Waste and Resource Management Plan (WRMP).* ▪ The works-specific WRMP will be prepared in accordance with Caltex's Construction Management Plan Standard (ref: 4.20.03.001), the Waste Avoidance and Resource Recovery Act 2001, the POEO Act, the EPA's Waste Classification Guidelines 2009 and Caltex's EPL requirements.*

Element	Waste and Resource Management
	▪ The works-specific WRMP will incorporate the requirements of this CEMP. The works-specific WRMP will also: • Identify and incorporate requirements consistent with the waste and resource hierarchy and cleaner production initiatives. • Ensure resourcing efficiency is delivered through the design and responsible construction practices. • Provide consistent clear direction on waste and resource handling, storage, stockpiling, use and reuse management measures (consistent with current management practices relating to Caltex's CEMP procedures). • Identify disposal and management routes consistent with current management practices as adapted for the proposed works. • Set out clear requirements for meeting legislative and regulatory requirements. • Define requirements to support Caltex's sustainable procurement objectives through effective design, construction and procurement. • Set out processes for disposal, including onsite transfer management and the necessary associated approvals. • Include a process for auditing, monitoring and reporting, which would include regular inspections of site activities and the waste management area.* ▪ Resource use will be minimised wherever practicable throughout construction. ▪ Responsible construction practices will be implemented to prevent mismanagement of waste. ▪ The Contractor will carry out regular inspections of site activities and waste management area. ▪ The Contractor will establish and maintain a waste collection and storage area within its work area.

Element	Waste and Resource Management
	▪ No burning of waste is allowed under any circumstances. ▪ Contractors will ensure appropriate waste containers are available within their works area for the segregation and storage of wastes, including for ship-generated waste, in accordance with the Waste Classification Guidelines 2009.* ▪ All waste containers will have secure lids in place to prevent water ingress and access to animals. ▪ Caltex will make all Contractors aware of Caltex's existing procedures for the disposal of general waste and recyclable materials (modified as required).* ▪ Contractors will implement Caltex's existing procedures for the disposal of general waste and recyclable materials.* ▪ Bilge water discharge is not permitted.* ▪ All bilge waters generated during construction will be stored on board the relevant vessel and disposed of onshore at an approved facility.+ ▪ No 'high risk' (refer DAFF 2011) ballast water or sediments from ballast tanks will be discharged in to Botany Bay.* ▪ Ballast water will be controlled in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).* ▪ No ballast water discharge is permitted within 12 nautical miles of the coast. Prior to discharge, the relevant Contractor will ensure the ballast waters contain no marine pest species.+ ▪ Each construction ship will implement a Ballast Water and Sediment Management Plan that sets out controls to manage ballast and bilge waters in accordance with the International Convention for the Control and Management of Ships' Ballast Water and Sediments, the IMO Guidelines for the Control and Management of Ships' Ballast Water (1997) and the Australian Ballast Water Management Requirements (Version 5) (DAFF 2011).*

Element	Waste and Resource Management
	▪ Discharge of any solid waste overboard is not permitted.* ▪ Any refuelling taking place at the wharf will be undertaken in accordance with existing Caltex procedures and permits. ▪ Contractors will ensure their construction activities conform to the requirements of the MARPOL Convention, with regard to the statutory controls placed on ships to prevent marine pollution.* ▪ Contractors will ensure their construction activities conform to the pollution prevention requirements set out under Section 120 of the POEO Act.* ▪ Licensed contractors will be utilised to remove and transport waste from the site.* ▪ Records of Controlled Waste Receipts and Tracking Numbers will be maintained on site. ▪ Environmental issues and impacts will be considered when procuring subcontractors and suppliers. ▪ Suppliers and subcontractors will be made aware of the relevant Project environmental requirements. ▪ Environmental requirements will be included in procurement and subcontract documentation through the contract and scope of works.* ▪ Carefully select suppliers and subcontractors based upon their ability to meet stated requirements including corporate and Project environmental and sustainability initiatives.* ▪ Any additional requirements of the Project Waste Management Plan (Caltex 2013d; available on the Caltex intranet) relevant to dredging will be implemented.
Performance Indicators	▪ No litter present in construction areas (including in the water). ▪ Appropriate segregation of recyclable material from general waste.* ▪ Environmental requirements included in procurement and subcontract documentation. ▪ No discharge of bilge water from construction vessels.*

Element	Waste and Resource Management
Monitoring	▪ The Contractor will record the types, volumes and management measures (i.e. reuse / recycling / disposal etc) for wastes generated from its construction activities.* ▪ The Contractor will carry out regular inspections of its works areas to ensure wastes, chemicals and hazardous materials are appropriately stored.
Reporting	▪ The Contractor will report fortnightly to the Caltex EMR on the types, volumes and management measures (i.e. reuse / recycling / disposal etc) for wastes generated from its construction activities. ▪ Waste generated by Contractors during construction will be incorporated into Caltex's annual reporting of waste.*
Corrective Action	▪ Any spills will be managed in accordance with the requirements set out in Section 8.1. ▪ Waste reduction education will be undertaken if excessive volumes of waste are found to be regularly removed from site.

8.9 Hazardous Substances

Element	Hazardous Substances
Performance Objectives	*To prevent the release of hazardous substances to the environment.*
Management Actions	▪ All hazardous and controlled materials and wastes will be stored in a controlled manner. ▪ All fuel and hydraulic oils would be stored in secure, bunded areas and precautions would be taken during any refuelling or oil transfer operations to avoid oil entering the marine environment.* ▪ Any refuelling taking place at the Wharf would be undertaken in accordance with existing procedures and permits.* ▪ Containment facilities will be capable of containing 110% of the stored or handled volume. ▪ All storage and handling equipment for fuels, lubricants and chemicals will be maintained in good working condition. ▪ Material Safety Data Sheets (MSDSs) will be maintained on site for all hazardous and potentially hazardous substances, including fuels and chemicals, in a readily accessible location. ▪ The Contractor will develop and maintain a Hazardous Materials Register to record the type and volume of hazardous materials stored on site. ▪ In the event of an evacuation, hazardous materials will be contained and removed to bunded areas as far as practicable.
Performance Indicators	▪ No release of hazardous substances to waterways. ▪ Appropriate storage of hazardous substances.
Monitoring	▪ A Hazardous Materials Register will be maintained to monitor volumes and types of hazardous substances on site. ▪ Visual inspections will be undertaken at least weekly for evidence of spills where hydrocarbons are stored or used.
Reporting	▪ Inappropriate storage or handling of fuels, lubricants and chemicals will be reported to the Caltex EMR. ▪ All hazardous substances stored on site will be recorded on a Hazardous Materials Register, including their type and volume.

Element	Hazardous Substances
Corrective Action	▪ Any spills will be managed in accordance with the requirements set out in Section 8.1.

9 EMERGENCY CONTACTS

Emergency Contacts	
Site Address	Kurnell Wharf, Botany Bay, NSW Access from Prince Charles Parade, Botany Bay, between Silver Beach Road and Captain Cook Drive **GPS Location (degrees, minutes, seconds):** 34°00'00" south 151°12'35" east **Contact Name:** Khaled Elomar **Contact Number:** (02) 9668 1990 **Caltex Australia Ltd Head Office:** (02) 9250 5000
EMERGENCY	**333 (Caltex Emergency Number – call first)** or **000**
ENVIRONMENTAL ISSUES AND POEO NOTIFICATION Caltex EMR	**Contact Name:** Simon Caples **Contact Number:** (02) 9668 1985
EPA Environment Line	131 555
WorkCover	131 050
Fire and Rescue NSW	1300 729 579
Public Health Unit (Randwick Office at Prince of Wales Hospital - ask for Public Health Nurse on call)	(02) 9382 8333 After hours: (02) 9382 2222

Emergency Contacts	
SYDNEY PORTS CORPORATION	(02) 9296 4000 or (02) 9296 4001
HOSPITAL Sutherland Hospital Kareena Rd, Caringbah	(02) 9540 7111
Saint George Hospital Gray Street, Kogarah	(02) 9113 1111
Prince of Wales Hospital Barker St, Randwick	(02) 9382 2222
LOCAL POLICE Miranda Local Area Command 34 Kingsway Cronulla	(02) 9527 8199
POISONS INFORMATION CENTRE Advice on first aid including dangerous plants, animals, insects and household products.	131 126
WILDLIFE RESCUE WIRES 24 hours, 7 days a week	1300 094 737
Orrca Marine Mammal Rescue (whales, dolphins, seals and dugongs) 24 hours, 7 days a week	(02) 9415 3333
NATIONAL PARKS Botany Bay National Park Duty Officer	(02) 9668 2000 or 0419 428 054

Emergency Contacts	
CALTEX COMMUNITY CONCERNS HOTLINE 24 hours, 7 days a week	1800 802 385 (Toll Free)

10 REPORTING

The Contractor will provide a brief report to the Caltex EMR on a fortnightly basis, including all information required by this CEMP (as set out in Reporting under Sections 8.1 to8.9).

Caltex and the Contractor (as relevant) will report to the EPA in accordance with the requirements of environment protection licenses relevant to the Project.

Records will be developed and maintained in relation to this CEMP including:

- Training records
- Incident report forms
- Audit/inspection forms
- Corrective Actions Register
- Complaints Register
- Monitoring results
- Controlled Waste Receipts and Tracking Numbers
- Volume of waste to landfill and waste recycled

The Contractor is required to forward all records generated as a result of this CEMP to the Caltex EMR on a monthly basis. Records will be maintained on site by the Caltex EMR.

11 REFERENCES

Caltex (undated) Kurnell Refinery Pollution Incident Response Management Plan. Available online at: http://www.caltex.com.au/CommunityAndEnvironment/Documents/Kurnell_Refinery_PIRMP.pdf

Caltex (2013a) Project Air Quality Management Plan. Available on the Caltex intranet.

Caltex (2013b) Project Construction Noise and Vibration Management Plan. Available on the Caltex intranet.

Caltex (2013c) Project Construction Traffic and Access Management Plan. Available on the Caltex intranet.

Caltex (2013d) Project Waste and Resource Management Plan. Available on the Caltex intranet.

Department of Agriculture, Fisheries and Forestry (DAFF) (2011) National Seaports Program. Australian Ballast Water Management Requirements. Version 5. 29 November 2011. Available online at: http://www.daff.gov.au/__data/assets/pdf_file/0004/713884/Ballast-Water-Mgmt-Requirements.pdf

Department of Environment and Climate Change (DECC) (2009) Interim Construction Noise Guideline. Available online at: http://www.environment.nsw.gov.au/resources/noise/09265cng.pdf

Department of Environment, Climate Change and Water (DECCW) (2009) Waste Classification Guidelines. Available online at: http://www.environment.nsw.gov.au/waste/envguidlns/

Department of Industry and Investment (DII) (2009) NSW control plan for the noxious marine alga *Caulerpa Taxifolia.* Available online at: http://www.dpi.nsw.gov.au/__data/assets/pdf_file/0013/210712/NSW-control-plan-caulerpa-taxifolia.pdf

Department of Infrastructure, Planning and Natural Resources (2004). Guideline for the Preparation of Environmental Management Plans

Department of Planning and Infrastructure (DP&I) (2013) Draft development consent "*SSD_5353 DevelopmentConsent_Draft for DP&I review_26072013x*", as provided to WorleyParsons by Caltex in email From: Khaled Elomar [mailto:kelomar@caltex.com.au] To: Rachkidi, Shadi (Sydney) Sent: Wednesday, 7 August 2013 3:45 PM

NSW Environment Protection Authority (EPA) (2013) Draft Environment Protection Licence (EPL) "*Caltex - Ports Berthing EIS - Draft Water Licence - 5 Aug 2013*", as provided to WorleyParsons by Caltex in email From: Khaled Elomar [mailto:kelomar@caltex.com.au] To: Rachkidi, Shadi (Sydney) Sent: Wednesday, 7 August 2013 3:45 PM

International Maritime Organization (IMO) (1997) Guidelines for the Control and Management of Ships' Ballast Water to Minimize the Transfer of Harmful Aquatic Organisms and Pathogens. Adopted on 27 November 1997. Available online at: http://globallast.imo.org/868%20english.pdf

URS (2013) Kurnell Port and Berthing Facility Environmental Impact Statement. Volume 1, Main Report. Accessed 13 March 2013. Available online at: http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=5353

URS (2013a) Kurnell Ports and Berthing Facility Submissions Report. Volume 1, Main Report. June 2013. Accessed 22 August 2013. Available online at: https://majorprojects.affinitylive.com/public/94860d4b3fb0f5d74553a8922db9fe8b/Submissions%20Report.pdf

ATTACHMENT 1: GENERAL ARRANGEMENTS PLANS 148215 AND 148229