

Kurnell Refinery Conversion Project Contamination Management Plan

CALTEX REFINERIES (NSW) PTY LTD

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1 INTRODUCTION

Caltex propose to convert the petroleum refinery in Kurnell (the 'Site') to a finished fuel terminal facility (the Project). The Project is being undertaken in accordance with Development Consent from the Department of Planning and Infrastructure (Application Number: SSD 5544).

This Contamination Management Plan (CMP) has been prepared in response to Development Consent condition C15 which states:

The Applicant shall prepare and implement a Contamination Management Plan for the construction works. The Plan shall:

- (a) be prepared in consultation with the EPA and NSW Health;*
- (b) be to the satisfaction of the Director-General (refer to Condition D1 for timing);*
- (c) outline measures for managing potentially contaminated soil and groundwater, including soil testing, classification, handling, storing and disposal;*
- (d) detail the measures that will be employed to prevent erosion and sedimentation of contaminated soil;*
- (e) detail measures for periodically testing surface water run-off that may accumulate during excavation works for elevated levels of contamination, with any water that is found to have elevated levels of contaminants being disposed of via the on-site Wastewater Treatment Plant.*
- (f) detail measures for managing asbestos encountered during works, including disturbances of soil and release of asbestos into the air;*
- (g) outline how all contaminated soil and associated waste material would be managed in accordance with the Protection of the Environment Operations Act 1997 and associated regulations and characterised in accordance with the EPA's Waste Classification Guidelines;*
- (h) detail how the storage, disposal and transport of asbestos waste would be undertaken in accordance with the Protection of the Environment Operations (Waste) Regulations.*
- (i) assess any likely impact on existing remediation projects and, if any impacts are identified, provide details as to the measures that shall be taken to reduce or avoid that impact;*

1.1 Background

Kurnell Refinery is located on the Kurnell Peninsula within the Sutherland Shire Local Government Area (SS LGA), approximately 15 kilometres (km) south of Sydney's Central Business District (CBD). The refinery was commissioned in 1956 and is currently used to receive and store crude oil and some refined products as well as for refining crude oil into refined products. The crude oil is delivered to the refinery via ships that dock at Kurnell Wharf in Botany Bay. These materials are transferred via pipeline to storage tanks on the Site. The crude oil is then piped from the storage tanks to the crude distillation units for processing into fuels to supply the NSW and ACT markets. **Figure 1** shows the location of the Site.

The Project comprises:

- Continued use of parts of the Site in a manner similar to that currently in place for the storage and distribution of petroleum product;
- Cleaning and modification of some of the existing tanks on Site to store refined product (i.e. finished product tanks); and

- A range of ancillary works to improve efficiency and capability for use as a terminal.

It is expected that the proposed works would be carried out over a 54 month period.

The ultimate aim of the Project is to allow the Site to be utilised as a terminal where finished products can be received by ship, stored in tanks before leaving the Site by pipeline to the Caltex Banksmeadow Terminal, Silverwater Terminal, Joint User Hydrant Installations (JUHI) facility at Sydney Airport, or to the Caltex Newcastle Terminal via the Newcastle Pipeline.

1.2 Environmental Protection License

The refinery currently operates in accordance with an Environmental Protection License (EPL number: 837) issued by the NSW Environment Protection Authority. This EPL contains numerous operational conditions and Pollution Reduction Programs (PRPs). All work undertaken during this project will comply with the conditions within this EPL.

2 OBJECTIVES

The objective of the Contamination Management Plan is to outline measures for managing potentially contaminated soil and groundwater, including soil testing, classification, handling, storing and disposal.

To address this objective, the Management Plan documents:

- The management measures, actions and associated performance indicators, that will be implemented throughout the Project;
- The proposed monitoring program that will be implemented; and
- Key project management roles and responsibilities and reporting requirements.

3 PROJECT OVERVIEW

The work associated with the Project is consistent with routine maintenance and replacement of plant and equipment undertaken as part of normal refinery operations. The Project will install the following items of equipment at the Site:

- Eight transfer pumps;
- New product lines between the Oil Movement Centre (OMC) and the jet, diesel and gasoline finished product tanks;
- New slops line between the OMC and slops tanks;
- Pipe supports and associated civil works for the pipeline runs; and
- Associated valves and pipework on plot.

Table 1 provides a description of the various works proposed for the Project.

Table 1 - Proposed Project Works

Discipline	Description	Plant Locator
Mechanical	Installation of eight off transfer pumps.	Various Pump Plots around the Site
Piping	Fabrication and installation of process piping through the various pipeways between the OMC and the various finished product storage tanks.	Various Pipeways and Tank Bunds around the Site
Civil	Supply and installation of new equipment footings and concrete paved areas.	Various Tank Bunds and Pump Plots
Structural	Fabrication and installation of new concrete and structural steel pipe supports, new access platforms to product tanks and access stairs and jump-overs on plot.	Various Pipeways and Tank Bunds around the Site
Electrical	Installation of LV power cables, LV boards and termination at LV board and electrical equipment.	Various Pump Plots and Tank Bunds around the Site
Instrumentation	Installation of instrumentation, cable trays and associated cabling.	Various Pump Plots, Pipeways and Tank Bunds around the Site

The works undertaken during the Project are not anticipated to require significant excavation activities. In addition excavations will all be relatively shallow and thus not result in the intersection of the water table.

3.1 Project Program

The approximate Project program is shown in Table 2.

Table 2 - Approximate Project program

Task	Date
Detailed Engineering and Design Start	Mid 2012
Engineering and Design Completed	Q2 2013
Tank Conversions Start	Q3-Q4 2013
Installation of Piping, Pumps and Associated Infrastructure	Q3-Q4 2013
Construction on Piping Completed	Q2 2014
Kurnell Refinery Shutdown	Q3 – Q4 2014
Continued Tank Conversions	Q4 2014 – Q4 2016
Conversion to Terminal Completed	Q4 2016

4 IMPLEMENTATION

4.1 Responsibilities

Overall responsibility for the implementation of this Management Plan rests with Caltex. All employees and the Contractor will meet the requirements of this Management Plan and associated procedures. Management actions set out in this Management Plan may be delegated in writing by Caltex to the specific Contractor.

Key Project personnel including the Caltex Project Manager, Caltex EMR, 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 the implementation and operational phase of the project. 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 Management Plan.

Caltex Environmental Management Representative (EMR)

- Accountable for environmental matters on the Project.
- Provide support to Caltex personnel and the Contractor as required to ensure this Management Plan is implemented and complied with.
- Review effectiveness and implementation of this Management Plan.
- 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).

All Personnel (Caltex and the Contractor)

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

4.2 Induction

Caltex has a site induction program that all contractors and employees are required to complete prior to undertaking any work.

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

4.3 Training

All Project personnel will have the experience and necessary training to carry out their required tasks, including in the use of equipment and the implementation of this Management Plan.

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.

4.4 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

4.5 Compliance Management

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

Caltex manages all community complaints in accordance with the requirements of EPL 837, including:

- Reporting complaints in the Annual Return for EPL 837
- 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

Caltex will continue to operate its 24-hour hotline number (1800 802 385 toll free) to receive feedback and complaints associated with the Project. All feedback and complaints will be relayed to the EMR

and relayed to the Refinery Manager, Community Relations Manager and the Environmental Protection Superintendent, 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.

5 MANAGEMENT PROCEDURES

Specific control measures required to undertake the Project including the Performance Objectives, Management Actions, Performance Indicators, Monitoring, Reporting and Corrective Actions set out in the following sections.

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 Caltex and Contractors personnel will implement reasonable and practicable measures to avoid or minimise impacts to the environment that may arise from the Project.

5.1 Management Actions

The management actions include;

- Sampling of all excavations for asbestos and inspection for hydrocarbon impacts using a PID where appropriate. Asbestos assessment must be undertaken in accordance with Schedule B1 Guidelines, Investigation Levels for Soil and Groundwater, National Environment Protection Measure (Assessment of Site Contamination) Amendment Measure 2013;
- Testing the pH of soil excavated from below 2m depth to screen for acid sulphate soils;
- An Acid Sulphate Soils Management Plan (ASSMP) must be prepared if any soils encountered with a pH below 5 pH units. The ASSMP must be:
 - (a) prepared in consultation with the EPA and Council by a suitably qualified and experienced expert;
 - (b) be approved by the Director-General prior to the continuation of any excavation works;
 - (c) outline the investigations that have be undertaken to test for the presence of ASS in accordance the NSW State Government's *Acid Sulphate Soils Manual* (ASSMAC 1998);
 - (d) detail the protocols to be put in place and followed;
 - (e) detail how the ASS will be tested, handled and stockpiled;
 - (f) detail measures to prevent erosion and sedimentation of ASS; and, if necessary
 - (g) outline how the ASS will be disposed of off-site (e.g. at a licensed facility).
- Removal from site of any soil impacted with asbestos. Asbestos impacted soil will be classified in accordance with NSW EPA guidelines for transport and disposal at a licensed landfill (and in accordance with the refinery waste management system and the Waste Management Plan for the Project);
- Sampling of any ponded stormwater, within excavations prior to discharge to stormwater. Only uncontaminated and hydrocarbon free water can be discharged to stormwater. Any hydrocarbon impacted water or potentially impacted water must be discharged to the oily water sewer system;

- Sampling of any groundwater, within excavations prior to discharge to stormwater. Only uncontaminated and hydrocarbon free water can be discharged to stormwater. Any hydrocarbon impacted water or potentially impacted water must be discharged to the oily water sewer system;
- Prior to the extraction of groundwater from any excavation or prior to dewatering activities, the necessary water licences or approvals must be obtained from NSW Office of Water (NOW);
- Prior to the extraction of groundwater, if required, a Groundwater Management Plan must be prepared that includes measures for the testing, storage, movement and treatment of any groundwater in consultation with the NOW, to the satisfaction of the Director-General;
- Asbestos impacted soil should be removed from the site as soon as practicable. If asbestos soil needs to be temporarily stored on site, prior to disposal, the material must be located in the waste storage yard, covered and labelled as asbestos waste. The excavation transport and disposal of asbestos impacted soil must be undertaken by a licenced contractor and comply with NSW WorkCover requirements;
- Hydrocarbon impacted soil should be transferred to the landfarm in the Site as soon as practicable.
- Asbestos or hydrocarbon impacted soil should not be temporarily stockpiled at the excavation.

5.2 Performance Indicators

The following performance indicators will be implemented during the project:

- All excavated soil is tested for asbestos and screened for hydrocarbon impacts using a PID where appropriate.
- Impacted soils are not temporarily stockpiled at the excavation.
- All ponded water is tested prior to discharge to stormwater.
- Soil excavated from below 2m depth is subject to pH screening.
- All asbestos soil is managed in accordance with the existing refinery waste permit system and the Waste Management Plan for the Project.

5.3 Monitoring

The key monitoring requirements for this Project:

- The Caltex Project Manager will monitor all excavation activities to ensure testing and screening is completed;
- The EMR will monitor excavated soil test results and the management of asbestos and hydrocarbon impacted soil to ensure compliance with the waste management plan.
- The EMR will monitor the testing and discharge of ponded water from excavations.

5.4 Reporting

The reporting requirements include;

- The volume and quality of any ponded water discharged to stormwater.
- The volume asbestos contaminated soil disposed to landfill, the disposal consent number and the landfill location.
- The volume of hydrocarbon soil transported to the landfarm.
- The results of any pH testing undertaken during excavation activities greater than 2m depth.

5.5 Corrective Action

The corrective actions to be implemented during the Project include:

- The re-testing/excavation and removal of soils where testing prior to excavation was not undertaken.