

## Director-General's Requirements

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## Director-General's Requirements



Ms Lauren Engel  
Caltex Refineries (NSW) Pty Ltd  
2 Solander Street  
KURNELL NSW 2231

Contact: Nick Hall  
Phone: 02 9228 6438  
Fax: 02 9228 6466  
[nicholas.hall@planning.nsw.gov.au](mailto:nicholas.hall@planning.nsw.gov.au)

Dear Ms Engel

**State Significant Development – Director General’s Requirements  
Caltex Kurnell Refinery Conversion (SSD-5544)**

I have attached the Director General’s environmental assessment requirements (DGRs) for the proposed Caltex Kurnell Refinery Conversion.

These requirements have been prepared in consultation with the relevant government agencies and Sutherland Shire Council (see attachment 2), and are based on the information you have provided to date. Please note that the Department may alter these requirements at any time, and that you must consult further with the Department if you do not lodge a development application and EIS for the development within two years of the date of issue of these DGRs. The Department will review the EIS for the development carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the DGRs.

I wish to emphasise the importance of effective and genuine community consultation and the need for proposals to proactively respond to the community’s concerns. Accordingly a comprehensive, detailed and genuine community consultation and engagement process must be undertaken during preparation of the EIS. This process must ensure that the community is both informed of the proposal and is actively engaged in issues of concern to them. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the potential impacts.

The Department prefers operations like the Caltex Kurnell Refinery to operate under a single, modern planning approval. Consequently, the Department encourages you to develop the project with this preference in mind, and to consider surrendering all of the existing planning approvals for the refinery if the project is approved.

Your proposal may require a separate approval under Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). If an EPBC Act approval is required, I would appreciate it if you would advise the Department accordingly, as the Commonwealth approval process may be integrated into the NSW approval process, and supplementary DGR’s may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you intend to submit the DA and EIS for the development. This will enable the Department to determine the:

- applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*);
- consultation and public exhibition arrangements; and
- number of copies (hard-copy or CD-ROM) of the DA and EIS that will be required for exhibition purposes.

If you have any enquiries about these requirements, please contact Nick Hall on the above details.

Yours sincerely

A handwritten signature in black ink, appearing to be 'Chris Wilson', written over the words 'Yours sincerely'.

14.9.12

Chris Wilson  
**Executive Director**  
**Major Projects Assessment**  
As the Director-General's nominee

# Director General's Environmental Assessment Requirements

## Section 78A(8A) of the *Environmental Planning and Assessment Act*

### State Significant Development

<b>Application Number</b>	SSD-5544
<b>Development</b>	Modification of Caltex's Kurnell Refinery site into a finished fuel terminal facility including: <ul style="list-style-type: none"> <li>• converting tanks on site for the storage of finished fuel products, product mixes and site effluent water; and</li> <li>• associated pipeline, pump and other infrastructure upgrade work.</li> </ul>
<b>Location</b>	2 Solander Street, Kurnell NSW 2231
<b>Applicant</b>	Caltex Refineries (NSW) Pty Ltd
<b>Date of Issue</b>	12 September 2012
<b>General Requirements</b>	<p>The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</p> <p>In addition, the EIS must include a:</p> <ul style="list-style-type: none"> <li>• clear description of the existing operations carried out on the site and how the site operates lawfully under the <i>Environmental Planning and Assessment Act 1979</i> including any reliance on use rights and/or planning approvals;</li> <li>• detailed description of the development, including: <ul style="list-style-type: none"> <li>– the extent to which existing/continuing use rights and/or planning approvals are to continue to be relied on for the future operation of the site;</li> <li>– need for the proposed development;</li> <li>– justification for the proposed development;</li> <li>– likely staging of the development;</li> <li>– likely interactions between the development and existing, approved and proposed operations in the vicinity of the site including Caltex's proposed Port and Berthing Project (SSD-5353);</li> <li>– the nature and destination of fuels to be received and distributed; and</li> <li>– plans of all proposed building and conversion works.</li> </ul> </li> <li>• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments.</li> <li>• risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment.</li> <li>• detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: <ul style="list-style-type: none"> <li>– a description of the existing environment, using sufficient baseline data;</li> <li>– an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and</li> <li>– a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.</li> </ul> </li> <li>• consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.</li> </ul>
<b>Key issues</b>	<p>The EIS must address the following specific matters:</p> <ul style="list-style-type: none"> <li>• <b>Hazards and Risks</b> – including:</li> </ul>

- a summary of the results of a Preliminary Hazard Analysis (PHA) undertaken for the proposed development. The PHA should be prepared in accordance with *Hazardous Industry Planning Advisory Paper No. 6 - Hazard Analysis* and it should, in particular:
  - identify the hazards associated with the existing site and proposed development, as well as any external hazards (i.e. natural hazards) to determine the potential for off-site impacts;
  - demonstrate that the proposed development complies with the criteria set out in *Hazardous Industry Planning Advisory Paper No 4 – Risk Criteria for Land Use Safety Planning*;
  - estimate the cumulative impacts from the overall site and the surrounding potentially hazardous developments in the area and demonstrate that the proposed development does not increase the cumulative risks of the area to unacceptable levels;
  - the basis of the failure rates used in the PHA. These should be appropriate to the age and condition of the components of the proposed facility;
  - address all relevant recommendations arising from the Buncefield incident; and
  - address all recommendations of the Department's *Kurnell Peninsula Land Use Safety Study* relevant to the development.
- **Noise and Vibration** – including:
  - an assessment of all construction, operational and transportation noise impacts on surrounding residential receivers;
  - any vibration impacts from construction and operation;
  - cumulative impacts of other developments both on the site and in the vicinity of the site; and
  - details of the proposed noise management and monitoring measures.
- **Contamination** – including:
  - an assessment of any potential site contamination and details of all potential contamination sources;
  - how ecological and human health risks posed by contaminants on the site would be mitigated and managed;
  - identification of any contaminated soil likely to be impacted by the development;
  - proposed measures to be implemented in the event that soil contamination is encountered;
  - demonstration that the development will not impact on other remediation activities being undertaken in the vicinity; and
  - how site contamination will be remediated and managed for potential future uses.
- **Soil and Water** – including:
  - an assessment of the potential soil, groundwater and surface water impacts of the development;
  - identification of any water licensing requirements or other approvals under the *Water Act 1912* and/or the *Water Management Act 2000*;
  - demonstration that water for the development can be obtained from an appropriately authorised and reliable water supply in accordance with the operating rules of the relevant Water Sharing Plans;
  - a detailed description of the mitigation and management controls that would be put in place to manage erosion and sediment, stormwater, spills and acid sulphate soil (if present);
  - ways to reduce water supply and increase water reuse; and
  - potential impacts of flooding, with consideration of climate change and projected sea level rises.
- **Heritage** – including:
  - an Aboriginal cultural heritage assessment (including both cultural and archaeological significance), which must demonstrate effective consultation with relevant Aboriginal community groups; and
  - a non-Aboriginal cultural heritage assessment (including both cultural

	<p>and archaeological significance) which must:</p> <ul style="list-style-type: none"> <li>➤ include a statement of heritage impact (including significance assessment) for the site and any National, State significant or locally significant historic heritage items in the area, including the Kurnell Peninsula Headland; and</li> <li>➤ outline any proposed management and mitigation measures.</li> </ul> <ul style="list-style-type: none"> <li>• <b>Air Quality and Odour</b> – including: <ul style="list-style-type: none"> <li>– a quantitative assessment of the air quality and odour impacts of the development on surrounding receivers, including impacts from construction, operation and road transportation; and</li> <li>– details of the proposed management and monitoring measures.</li> </ul> </li> <li>• <b>Transport and Access</b> – including: <ul style="list-style-type: none"> <li>– accurate predictions of the traffic generated by the development;</li> <li>– a detailed assessment of the potential impacts of the development on the capacity, efficiency and safety of the road network including the cumulative traffic generated by all existing and the proposed development;</li> <li>– details of any upgrades to road infrastructure that would be required due to the development; and</li> <li>– site accesses, internal roads and vehicular parking required as a result of the development.</li> </ul> </li> <li>• <b>Greenhouse Gas</b> – including: <ul style="list-style-type: none"> <li>– a quantitative analysis of the Scope 1, 2 and 3 greenhouse gas emissions of the development;</li> <li>– a qualitative analysis of the impacts of these emissions; and</li> <li>– details of the measures that would be employed to improve energy efficiency.</li> </ul> </li> <li>• <b>Waste</b> – including: <ul style="list-style-type: none"> <li>– accurate estimates of the quantity and classification of the potential liquid and non-liquid waste streams of the development;</li> <li>– identification of beneficial reuse opportunities for all wastes generated by the development; and</li> <li>– a description of the measures that would be implemented to ensure that any waste produced is appropriately handled, processed and disposed of.</li> </ul> </li> <li>• <b>Visual</b> – impacts on surrounding receivers and from public areas.</li> <li>• <b>Biodiversity</b> – including consideration of potential impacts on: <ul style="list-style-type: none"> <li>– terrestrial and aquatic ecology, including the surrounding Botany Bay National Park, Towra Point Nature Reserve and Towra Point Aquatic Reserve; and</li> <li>– the local oyster industry in Botany Bay.</li> </ul> </li> <li>• <b>Social and Economic.</b></li> </ul>
<p><b>Consultation</b></p>	<p>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular, you must consult with the:</p> <ul style="list-style-type: none"> <li>• Environment Protection Authority;</li> <li>• Fire and Rescue NSW;</li> <li>• NSW Department of Primary Industries (Office of Water and NSW Fisheries)</li> <li>• NSW Heritage Council;</li> <li>• NSW Office of Environment and Heritage;</li> <li>• NSW Transport (Roads and Maritime Services);</li> <li>• Sutherland Shire Council;</li> <li>• Sydney Metropolitan Catchment Management Authority;</li> <li>• Sydney Ports; and</li> <li>• WorkCover NSW.</li> </ul>

	<p>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>
<b>Further consultation after 2 years</b>	<p>If you do not lodge an EIS for the development within 2 years of the issue date of these DGRs, you must consult with the Director General in relation to the requirements for lodgement.</p>
<b>References</b>	<p>The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.</p>



## ATTACHMENT 1

### Technical and Policy Guidelines

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:

<http://www.planning.nsw.gov.au>

<http://www.bookshop.nsw.gov.au>

<http://www.publications.gov.au>

Aspect	Policy /Methodology
<b>Risk Assessment</b>	AS/NZS 4360:2004 Risk Management (Standards Australia) HB 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
<b>Hazards and Risk</b>	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development Applying SEPP 33: Hazardous And Offensive Development Application Guidelines (DUAP) Hazardous Industry Planning Advisory Paper No. 4 (DUAP, 1992): Criteria for Land Use Planning, (DUAP) Hazardous Industry Planning Advisory Paper No. 6 (HIPAP No 6): Guidelines for Hazardous Analysis, (DUAP) Multi-Level Risk Assessment (DUAP)
<b>Contamination</b>	State Environmental Planning Policy No 55 - Remediation of Land Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC) National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC) Managing Land Contamination - Planning Guidelines SEPP 55 – Remediation of Land (DUAP and EPA) Contaminated Sites: Sampling Design Guidelines (NSW EPA) Contaminated Sites: Guidelines for Consultants Reporting on Contaminated Sites (NSW EPA) Guidelines for the Assessment and Management of Groundwater Contamination (DECC) Draft
<b>Soil and Water</b>	
<i>Coastal</i>	NSW Coastal Policy (NSW Government 1997) State Environmental Planning Policy No 71 - Coastal Protection State Environmental Planning Policy No 62 – Sustainable Aquaculture Floodplain Risk Management Guideline - Practical Consideration of Climate Change (DECC)
<i>Surface Water</i>	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ) National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ) National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ) National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ) National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ) Bunding and Spill Management (EPA)

	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	The NSW State Rivers and Estuaries Policy (NSW Water Resources Council)
	Water Sharing Plan for the Metropolitan Region Unregulated River Water Sources (NOW) 2011
<i>Groundwater</i>	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	The NSW State Groundwater Dependent Ecosystem Policy (DLWC)
	Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources (NOW) 2011
<i>Acid Sulfate Soils</i>	Acid Sulfate Soil Manual (ASSMAC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
<i>Erosion and Sediment</i>	Design Manual for Soil Conservation Works - Technical Handbook No. 5 (Soil Conservation Service of NSW)
	Soil and Landscape Issues in Environmental Impact Assessment (DLWC)
	Wind Erosion – 2nd Edition
<i>Stormwater</i>	Managing Urban Stormwater: Strategic Framework. Draft (EPA)
	Managing Urban Stormwater: Council Handbook. Draft (EPA)
	Managing Urban Stormwater: Treatment Techniques (EPA)
	Managing Urban Stormwater: Source Control. Draft (EPA)
	Managing Urban Stormwater: Harvesting and Reuse (DEC)
<i>Wastewater</i>	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems - Use of Reclaimed Water (ARMCANZ/ANZECC)
	National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC)
	National Water Quality Management Strategy - Guidelines For Water Recycling: Managing Health And Environmental Risks (Phase1) (EPHC, NRMCC & AHMC)
<b>Heritage</b>	
<i>Aboriginal</i>	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DEC 2005)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
<i>Non- Aboriginal</i>	NSW Heritage Manual (NSW Heritage Office & DUAP)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
<b>Noise</b>	
	NSW Industrial Noise Policy (DECC)
	NSW Road Noise Policy (OEH, 2011)
	Interim Construction Noise Guideline (DECC)
<b>Vibration</b>	
	Environmental Noise Management – Assessing Vibration: a technical guide (DEC)
	DIN 4150 Part 3 – Structural Vibration: effects of vibration on structures (ISO, 1999)
	Assessing Vibration – A Technical Guide 2006 (DEC)
<b>Air Quality</b>	
	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)

<b>Odour</b>	<p>Technical Framework: Assessment and Management of Odour from Stationary Sources in NSW (DEC)</p> <p>Technical Notes: Assessment and Management of Odour from Stationary Sources in NSW (DEC)</p>
<b>Transport and Access</b>	<p>State Environmental Planning Policy (Infrastructure)</p> <p>Guide to Traffic Generating Development (RTA)</p> <p>Road Design Guide (RTA)</p>
<b>Greenhouse Gas</b>	<p>National Greenhouse Accounts (NGA) Factors</p> <p>Guidelines for Energy Savings Action Plans (DEUS)</p>
<b>Waste</b>	<p>Waste Avoidance and Resource Recovery Strategy 2007 - Overview (DECC)</p> <p>Waste Avoidance and Resource Recovery Performance Report 2006 (DECC)</p>
<b>Social and Economic</b>	<p>Draft Economic Evaluation in Environmental Impact Assessment (DOP)</p>

**ATTACHMENT 2**  
**Government Authority and Council Responses to Request for Key Issues**



OUT12/22289

11 SEP 2012

Mr Glen Hornal  
Mining and Industry Projects  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Hornal

**Caltex Kurnell Refinery Conversion (SSD-5544)  
Request for input into Director-General Requirements**

I refer to your letter of 17 August 2012 to the Department of Primary Industries in respect to the above matter.

The NSW Office of Water advises of the requirements listed in **Attachment A**. The Office also requests one (1) hard copy and one (1) CD copy of the completed Environmental Impact Statement and any other accompanying documentation. Should you require further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on (02) 4729 8262 or at: [janne.grose@water.nsw.gov.au](mailto:janne.grose@water.nsw.gov.au).

Fisheries NSW advises of the requirements listed in Attachment B. For further information please contact Carla Ganassin, Conservation Manager (Cronulla office), on (02) 9527 8552 or at: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au).

Crown Lands advises it has no requirements for the environmental assessment, but notes that Crown land adjacent to the site is subject to Aboriginal Land Claim. For further information please contact Stephen Fenn, Acting Senior Manager Crown Lands Sydney (Parramatta office) on 8236 7113 or at: [stephen.fenn@lands.nsw.gov.au](mailto:stephen.fenn@lands.nsw.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Phil Anquetil'.

Phil Anquetil  
**Executive Director Business Services**

## Attachment A

### **Caltex Kurnell Refinery Conversion (SSD-5544) Input into Director-General Requirements for Environmental Assessment Comment by NSW Office of Water**

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#### **Relevant Legislation**

The (EIS) should take into account the objects and regulatory requirements of the *Water Act 1912* and *Water Management Act 2000* (WMA 2000), as applicable. Proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the WMA 2000.

#### **Water Sharing Plans**

The proposal is located within the area covered by the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources* and the *Water Sharing Plan for the Greater Metropolitan Region Groundwater sources*. The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan (WSP) including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection, water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP.

Refer: <http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx>.

#### **Relevant Policies**

The EIS should take into account the following policies (as applicable):

- NSW State Rivers and Estuary Policy (1993);
- NSW State Groundwater Policy Framework Document (1997);
- NSW State Groundwater Quality Protection Policy (1998);
- NSW State Groundwater Dependent Ecosystems Policy (2002); and
- NSW Office of Water Guidelines for Controlled Activities (2012).

Refer: <http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx>

#### **Licensing Considerations**

The Office of Water notes the current site operations use potable water for water supply and the project is expected to reduce the overall potable water consumption by approximately 90 %.

The EIS is required to provide details on:

- Any proposed surface water and groundwater extraction and water supply works to take water.
- Any bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring.

### **Surface Water and Groundwater Assessment**

Section 3.2.3 of the Environmental Scoping Assessment report (ESA) indicates no impacts are anticipated to aquifers or other water sources due to the project. The EIS needs to provide adequate details to assess the potential impacts of the project on surface water, surrounding waterbodies and groundwater resources.

It would appear from the topographic map that a wetland and watercourse are located in the south-east corner of the refinery site. The site is surrounded by areas of conservation value including Botany Bay to the north of the site, Botany Bay National Park to the east and Towra Point Nature Reserve to the west of the site. The EIS is required to include the following:

- Details of all waterbodies, watercourses, wetlands and riparian areas on the site and in proximity to the site potentially affected by the project.
- A description of the design features and measures to be incorporated into the proposal to mitigate long term actual and potential environmental impacts.

It is noted surface runoff flows from the National Park into the site and surface drainage at the site flows towards the north-west into Quibray Bay and Botany Bay.

Section 4.2.3 of the ESA notes it is unlikely groundwater would be intercepted due to the minor nature of the construction works and the shallow footings required for pumps and other infrastructure and indicates procedures for dewatering and the disposal of waste water will be considered in the EIS. To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:

- The predicted highest groundwater table at the site.
- Any works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- A description of the flow directions and rates and physical and chemical characteristics of the groundwater source.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of the quality of the groundwater for the local groundwater catchment
- An assessment of groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- How the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impacts are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

### Groundwater Dependent Ecosystems

The EIS should provide details on the presence and distribution of GDEs in the vicinity of the site and:

- Demonstrate that the proposed development would maintain natural patterns of groundwater flow and not disrupt groundwater levels that are critical to GDEs;
- Identify any potential impacts on GDEs as a result of the proposal including:
  - The effect of the proposal on the recharge to groundwater systems;
  - The potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections;
  - The effect on the function of GDEs (habitat, groundwater levels, connectivity); and
  - Provide safeguard measures for any GDEs.

**End Attachment A**

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## Attachment B

### Caltex Kurnell Refinery Conversion (SSD-5544) Input into Director-General Requirements for Environmental Assessment Comment by Fisheries NSW

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#### **Aquaculture**

The EIS will need to consider *State Environmental Planning Policy 62 - Sustainable Aquaculture* and will need to demonstrate that there will be no impacts on water quality in Botany Bay which will adversely affect the local oyster industry. There are numerous Priority Oyster Aquaculture Areas in Botany Bay and the NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS) sets out the location of these, along with water quality guidelines. The OISAS can be accessed at:  
<http://www.dpi.nsw.gov.au/fisheries/aquaculture/publications/general/industry-strategy> .

#### **Aquatic Reserves**

It is essential the EIS assesses any impacts on aquatic reserves, especially Towra Point Aquatic Reserve, which is adjacent to the site. In this respect, the requirements of Section 197D of the *Fisheries Management Act 1994* for development in the locality of an aquatic reserve should be noted.

It is of concern to Fisheries NSW that the provided document *Report: Project Chemistry – Land Based Works – Environmental Scoping Assessment* does not include any mention of Towra Point Aquatic Reserve, including on page 29 where other reserves including Towra Point Nature Reserve, Boat Harbour Aquatic Reserve and Cape Banks Aquatic Reserve are listed. Similarly, page 15 of the report lists the Fisheries Management Act but does not discuss the relevant sections pertaining to development affecting an aquatic reserve.

The two potential impacts on aquatic reserves discussed in the report are surface water drainage issues, including releases of treated water into Quibray Bay in Towra Point Aquatic Reserve, and risks from fuel spills or accidents given the larger ships to be used and the different nature of the fuel to be shipped. These issues and other potential impacts on aquatic reserves should be further considered in the EIS and managed for in the subsequent Environmental Management Plan.

**End Attachment B**



Our reference: LIC06/45-29:DOC12/34293:CP  
Contact: Craig Patterson (02) 4224 4100

Department of Planning  
Major Projects Assessment  
(Attention: Glenn Hornal)  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Hornal

**REQUEST FOR KEY ISSUES AND ASSESSMENT REQUIREMENTS**  
**STATE SIGNIFICANT DEVELOPMENT - CALTEX KURNELL REFINERY CONVERSION (SSD-5544)**

I refer to your request dated 17 August 2012 for the Environment Protection Authority's (EPA) key issues and assessment requirements for the development of an Environmental Impact Statement (EIS) for the above state significant development.

The EPA has considered the details of the project as provided by the Department of Planning and Infrastructure (DP&I) and has identified a number of key environmental issues that should be addressed as part of the project. These issues have been identified in Attachment A and include:

- Licensing requirements
- Air Quality
- Water Quality
- Contaminated Sites
- Noise and vibration
- Waste

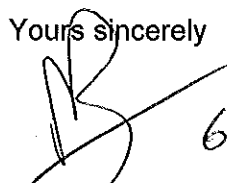
In addition to the above issues, the EIS should also address the issues discussed in the scoping assessment report dated 9 August 2012 prepared by URS Australia on behalf of Caltex Refineries (NSW) Pty Ltd (Caltex).

The proponent should also ensure that the EIS is sufficiently comprehensive to enable the EPA to determine the extent of the impact(s) of the proposal and that satisfactory measures are implemented to protect the environment and community amenity. Guidance and supporting documents which may be useful in addressing the above issues are included in Attachment B.

The EPA recommends that DP&I also consult with the Office of Environment and Heritage in regards to Aboriginal Cultural Heritage and Biodiversity issues. The Kurnell peninsula is known to support a number of endangered ecological communities and threatened species as well as contain a number of recorded archaeological sites.

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

Yours sincerely



6/9/12

**PETER BLOEM**  
Manager Illawarra  
Environment Protection Authority

Attachment: A and B

(N:\FINALS\2012\EPL\1837\CP DOC12-34293 CALTEX KURNELL REFINERY CLOSURE.DOC)

## **ATTACHMENT A**

### **Key Issues and Assessment Requirements State Significant Development – Caltex Kurnell Refinery Conversion**

#### **The Project**

Details are required on the location of the proposed development including the affected environment to place the proposal in its local and regional environmental context including surrounding landuses, planning zonings and potential sensitive receptors.

Describe mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts including any cumulative impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment. Appropriate Best Management Techniques should also be outlined. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

The Caltex Lube Oil Refinery plant ceased operation at the end of 2011 and Caltex are currently in the process of demolishing this plant. The EIS should address the relationship between the demolition of this facility and the proposed conversion works.

#### **Licensing requirements**

Caltex Refineries (NSW) Pty Ltd currently holds an Environment Protection Licence (EPL) issued under the *Protection of the Environment Operations (POEO) Act 1997* for the operation of the Kurnell Refinery. A copy of this licence can be obtained at <http://www.environment.nsw.gov.au/prpoeoapp/>.

The EIS should also demonstrate how the conditions of the licence will be complied with and identify any need for the EPL to be varied should consent be granted.

#### **Air Quality**

The goals of the project should be to ensure:

- Unacceptable impacts do not occur on human health or the environment
- No offensive odours are caused or permitted from the premises
- Emissions of dust from the premises are prevented or minimised; and
- All relevant guidelines in regards to ambient air quality are satisfied.

The EIS should include a detailed description of the proposal and identify and describe all processes and sources (including odour, dust and air toxics) that could result in air emissions. Sufficient detail to accurately communicate the characteristics and quantity of all emissions must be provided. A description of any proposed mitigation, monitoring and management measures the proponent intends to apply to ensure the above goals are satisfied should also be included.

For all point and fugitive sources, the EIS must demonstrate that emissions will be minimised to the maximum extent achievable through the application of best practice process design and/or emission controls. The EIS should specify any proposed management protocols, pollution control equipment and emission control techniques/practices that will be employed as part of the project.

The EIS should also include an assessment of the risk associated with potential discharges of fugitive and point source emissions for all stages of the project. Assessment of risk relates to environmental harm, risk to human health and amenity. Where appropriate, the EIS should include air dispersion modelling where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment. The EIS should justify the level of assessment undertaken on the basis of risk factors including proposal location, characteristics of the receiving environment and type and quantity of pollutants emitted.

The EIS should demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the POEO Act 1997 and the POEO (Clean Air) Regulation 2010.

**Water Quality**

The environmental outcomes for the project should be to ensure:

- There is no pollution of waters (including surface and groundwater) except in accordance with licence requirements
- Wastewater is collected, treated and beneficially reused, where this is safe and practicable to do so.

The EIS should describe the nature and degree of any likely impacts that the proposed project may have on the receiving environment and clearly outline the proposed mitigation, monitoring and management measures the proponent intends to apply to the project to ensure the above outcomes are satisfied.

The proposed project will involve the conversion of tanks and line systems and installation of new pumps and pipelines for the transfer product. The EIS should address the potential for any product spills from these works and any necessary bunding and/or spill management measures that may need to be implemented.

Stormwater management should also be carefully considered in relation to the proposed development. The EIS should document the soil and water management controls that will be implemented during the project to minimise any potential impacts on water quality. Caltex are currently completing a stormwater catchment and management program as part of a Pollution Reduction Program. The outcome of this program should be taken into consideration for the stormwater management required for the project.

In addition to the above, the EIS should also provide an update on the future of the proposed Caltex Kurnell Recycled Water Project which was for the construction and operation of a water recycling plant within the Kurnell Refinery premises.

Section 2.7.1 of the scoping assessment report discusses the conversion process for the petroleum storage tanks. In addition to the activities listed in the report, the proponent should also review the condition and adequacy of the existing tank bunding and their ability to contain any potential spills. The EIS should include information on the tanks that will be decommissioned as well as which tanks will contain which finished products.

**Contaminated Sites**

There are a range of complex contamination issues at the Kurnell refinery that are the legacy of historical waste disposal practices and often significant leaks and spills onto the sandy soils and shallow aquifer of the Kurnell Peninsula.

The EIS should undertake an assessment of the project area for any potential site contamination and summarise all potential contamination sources (including soil, surface water and groundwater) on or related to the site. The EIS should determine the likelihood of any impacts (including any potential offsite migration of contamination) occurring as a result of the project and detail any proposed mitigation and monitoring measures that will be implemented in the event that soil contamination is encountered. If there are any identified limitations during the assessment process, the EIS must clearly identify the limitations and outline a plan to fill any data gaps including details of any proposed staging of investigation activities.

The EIS should provide the details on how the site contamination will be remediated and managed so that the site is, or can be, made suitable for proposed future uses. Clarification on any potential future uses should also be detailed in the EIS.

The EIS should also specify whether or not a site auditor, accredited under the Contaminated Land Management Act 1997, has been or will be engaged to issue a site audit statement to certify on the suitability of the current or proposed uses.

**Noise and vibration**

The environmental outcome of the project should be to minimise adverse impacts due to noise and vibration from the project. The EIS must include an assessment of the predicted noise impacts associated

with the project in accordance with the EPA's *Interim Construction Noise Guidelines* and *Industrial Noise Policy*. The assessment should include, but need not be limited to:

- identification and assessment of all potential noise sources associated with the conversion works. This may include any demolition, construction and operational noises from the project and associated shipping movements
- identify the locations of all sensitive receptors
- the proposed hours of construction and operation of the conversion works
- an assessment of compliance with the project specific noise levels as determined using the above guidelines; and
- any proposed noise mitigation, monitoring and management measures which are necessary to achieve the above outcome.

If there is likely to be any vibration impacts associated with the proposed project, the EIS should also include an assessment of the predicted vibration impacts associated with the project.

The EPA is aware that there are currently a number of projects which relate to the Kurnell peninsula including several projects on Caltex's premises. These projects include the Maintenance Dredging around Caltex's wharf, the demolition of the Caltex Lube Oil Refinery and the possible future demolition of the Continental Carbon premises. Depending on the timeframes for these projects, the noise assessment may need to consider the cumulative impacts that these projects may have on the Kurnell area during the construction and operation of the project.

#### **Waste**

The goal of the project should be to ensure waste is managed:

- In accordance with the principles of the waste hierarchy and cleaner production
- The handling, processing and storage of all materials used at the premises does not have negative environmental or amenity impacts; and
- The beneficial reuse of all wastes generated at the premises are maximised where it is safe and practical to do so.

The EIS should identify, characterise and classify all waste that will be generated and disposed of as a result of the proposed project. Proposed quantities of waste and disposal locations must be detailed in the assessment and should include waste that is intended for reuse and/or recycling.

The EIS should also provide details of how waste will be handled and managed both onsite and offsite to minimise pollution. This should include information on the procedures and protocols to be implemented to ensure that any waste leaving the site is transported and disposed of lawfully and does not pose a risk to human health or the environment. If the waste possesses hazardous characteristics, the EIS must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal.

Section 4.2.12 of the scoping assessment report states that "*No demolition of the major structures on site is included as part of this project*". The EIS must confirm whether any demolition of process equipment will occur as part of this project.

All waste must be classified in accordance with EPA's *Waste Classification Guidelines*.

## ATTACHMENT B - GUIDANCE MATERIAL

Title	Web address
<b><u>Licensing</u></b>	
Protection of the Environment Operations Act 1997	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N</a>
DECCW Guide to Licensing	<a href="http://www.environment.nsw.gov.au/licensing/licenceguide.htm">www.environment.nsw.gov.au/licensing/licenceguide.htm</a>
<b><u>Air Quality</u></b>	
Approved methods for modelling and assessment of air pollutants in NSW	<a href="http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf">http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf</a>
Approved Methods for the Sampling and Analysis of Air Pollutants in NSW	<a href="http://www.environment.nsw.gov.au/resources/air/07001amsaap.pdf">http://www.environment.nsw.gov.au/resources/air/07001amsaap.pdf</a>
Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW	<a href="http://www.environment.nsw.gov.au/resources/air/20060440framework.pdf">http://www.environment.nsw.gov.au/resources/air/20060440framework.pdf</a>
Technical Notes - Assessment and Management of Odour from Stationary Sources in NSW	<a href="http://www.environment.nsw.gov.au/resources/air/20060441notes.pdf">http://www.environment.nsw.gov.au/resources/air/20060441notes.pdf</a>
POEO (Clean Air) Regulation 2010	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+428+2010+cd+0+N</a>
<b><u>Noise and Vibration</u></b>	
Interim Construction Noise Guideline (2009)	<a href="http://www.environment.nsw.gov.au/noise/constructnoise.htm">http://www.environment.nsw.gov.au/noise/constructnoise.htm</a>
Assessing Vibration: a technical guideline (2006)	<a href="http://www.environment.nsw.gov.au/noise/vibrationguide.htm">http://www.environment.nsw.gov.au/noise/vibrationguide.htm</a>
Industrial Noise Policy (EPA, 2000) and Industrial Noise Policy Application Notes	<a href="http://www.environment.nsw.gov.au/noise/industrial.htm">http://www.environment.nsw.gov.au/noise/industrial.htm</a>
NSW Road Noise Policy (2011)	<a href="http://www.environment.nsw.gov.au/noise/traffic.htm">http://www.environment.nsw.gov.au/noise/traffic.htm</a>
<b><u>Waste, Chemicals and Hazardous Materials and Radiation</u></b>	
Waste Classification Guidelines (2008)	<a href="http://www.environment.nsw.gov.au/waste/envguidlns/index.htm">http://www.environment.nsw.gov.au/waste/envguidlns/index.htm</a>
Resource recovery exemption	<a href="http://www.environment.nsw.gov.au/waste/RRRecoveryExemptions.htm">http://www.environment.nsw.gov.au/waste/RRRecoveryExemptions.htm</a>
<b><u>Water and Soils</u></b>	
<b>Acid sulphate soils</b>	
Acid Sulfate Soils Planning Maps	<a href="http://canri.nsw.gov.au/download/">http://canri.nsw.gov.au/download/</a>
Acid Sulfate Soils Manual (Stone et al. 1998)	<p>Manual available for purchase from: <a href="http://www.landcom.com.au/whats-new/the-blue-book.aspx">http://www.landcom.com.au/whats-new/the-blue-book.aspx</a></p> <p>Chapters 1 and 2 are on DoP's Guidelines Register at:</p> <p>Chapter 1 Acid Sulfate Soils Planning Guidelines:  <a href="http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf">http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf</a></p> <p>Chapter 2 Acid Sulfate Soils Assessment Guidelines:  <a href="http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf">http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf</a></p>

Title	Web address
Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004)	<a href="http://www.derm.qld.gov.au/land/ass/pdfs/lmg.pdf">http://www.derm.qld.gov.au/land/ass/pdfs/lmg.pdf</a> This replaces Chapter 4 of the Acid Sulfate Soils Manual above.
<b>Water</b>	
Water Quality Objectives	<a href="http://www.environment.nsw.gov.au/ieo/index.htm">http://www.environment.nsw.gov.au/ieo/index.htm</a>
ANZECC (2000) Guidelines for Fresh and Marine Water Quality	<a href="http://www.environment.nsw.gov.au/water/usinganzeccandwqos.htm">http://www.environment.nsw.gov.au/water/usinganzeccandwqos.htm</a>
Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones	<a href="http://deccnet/water/resources/AWQGuidance7.pdf">http://deccnet/water/resources/AWQGuidance7.pdf</a>
Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004)	<a href="http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf">http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf</a>
<b>Contaminated Sites Assessment and Remediation</b>	
Contaminated Land Management Act 1997	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N</a>
Guidelines under the CLM Act	<a href="http://www.environment.nsw.gov.au/clm/guidelines.htm">http://www.environment.nsw.gov.au/clm/guidelines.htm</a>
Guidelines for Consultants Reporting on Contaminated Sites (2011)	<a href="http://www.environment.nsw.gov.au/resources/clm/20110650consultantsguidelines.pdf">http://www.environment.nsw.gov.au/resources/clm/20110650consultantsguidelines.pdf</a>
Guidelines for the NSW Site Auditor Scheme - 2nd edition (2006)	<a href="http://www.environment.nsw.gov.au/resources/clm/auditorguidelines06121.pdf">http://www.environment.nsw.gov.au/resources/clm/auditorguidelines06121.pdf</a>
Sampling Design Guidelines (1995)	<a href="http://www.environment.nsw.gov.au/resources/clm/95059samppdline.pdf">http://www.environment.nsw.gov.au/resources/clm/95059samppdline.pdf</a>
National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update)	<a href="http://www.ephc.gov.au/taxonomy/term/44">http://www.ephc.gov.au/taxonomy/term/44</a>
Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land	<a href="http://www.planning.nsw.gov.au/DevelopmentAssessments/RegisterofDevelopmentAssessmentGuidelines/tabid/207/language/en-US/Default.aspx">http://www.planning.nsw.gov.au/DevelopmentAssessments/RegisterofDevelopmentAssessmentGuidelines/tabid/207/language/en-US/Default.aspx</a>



Peter Barber  
File Ref: 771908720

11 September 2012

Mr Chris Ritchie  
Manager – Industry – Mining and Industry Projects  
NSW Department of Planning and Infrastructure  
23-33 Bridge St  
SYDNEY NSW 2000

Via email: [glenn.hornal@planning.nsw.gov.au](mailto:glenn.hornal@planning.nsw.gov.au)

**Attention: Glenn Hornal**

Dear Mr Ritchie,

**Re: State Significant Development Proposal - Caltex Kurnell Refinery Conversion (SSD-5544)**

In response to your request to provide details of key issues and assessment requirements to be included in the Director Generals Requirements for the Caltex Kurnell Refinery Conversion, Council has undertaken a review of the supporting documentation; Project Chemistry -Land Based Works - Environmental Scoping Report (URS, 2012) submitted with this request.

Following a review of the documentation, Council believes that the scoping report has largely included the key environmental issues requiring consideration and assessment as part of the proposed works. However, in addition, Council would like the following issues considered for clarification/inclusion within the DGR's:

**Future Plans/Use of Remaining Portion of Site**

It is understood that following conversion, Caltex is proposing to use 60% of the tanks currently on site for the storage of finished fuel product, product mixes and site effluent water. There is no mention of the potential use of the remaining portion on site that will no longer be required. The applicant should be required to provide details of plans for the remaining portion of the site and the condition it will be left in following the conversion of the site.

**Contamination**

As outlined within the submitted scoping report, the subject site contains contaminated soil and groundwater as a result of the current and historical use of the site as an oil refinery. However, no details of any planned remediation have been mentioned in the submitted information. The DGR's should include the requirement for a detailed

Contamination Assessment to be carried out. This should include an assessment of ground-water contamination as well as address potential off site migration. An appropriate Remediation Action Plan (RAP) should also be submitted outlining how the applicant proposes to remediate the site for future use.

### **Ecological Considerations**

The subject site is surrounded by various Threatened Species and Endangered Ecological Communities (EEC's) as well as being in close proximity to Towra Wetland and the Botany Bay National Park. The scoping report has considered the presence of these important ecological features and has indicated that an assessment will be undertaken as part of the Environmental Impact Statement (EIS) submitted with the future application. It should be reinforced that the ecological assessment must address both direct and indirect impacts associated with the proposed works.

### **Acid Sulfate Soils**

The scoping report has stated that a detailed acid sulfate soils (ASS) assessment is not required, however, no detail regarding the depth of excavation required to be facilitate the proposed works has been included. Further consideration of ASS may be required dependant on the depth and extent of excavation required to facilitate the proposed works.

### **Residential Amenity**

As the site is adjacent to residential properties, consideration needs to be given to how their amenity will be protected. This may include control of noise, odours, working hours, vehicle movements and the like.

### **Conclusion**

Thank you for the opportunity to provide comment on the key issues and assessment requirements to be included in the DGR's 1 and look forward to commenting on the draft DGR's in future.

Should you need to discuss any aspect of this matter further, please do not hesitate to contact Council's Manager - Coastal Assessment Team, Peter Barber, on 9710 0373 during normal business hours.

Yours faithfully



Peter Barber  
Manager – Coastal Assessment Teams  
For JW Rayner  
General Manager

30 August 2012

Chris Ritchie  
Manager – Industry  
Mining and Industry Projects  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Attn: Glenn Hornal

Dear Mr Ritchie,

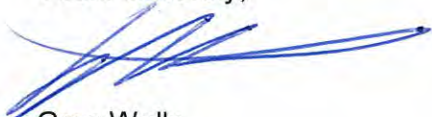
**RE: Request for Key Issues and Assessment Requirements – State Significant Development Proposal – Caltex Kurnell Refinery Conversion (SSD-5544)**

Thank you for providing Sydney Ports Corporation (Sydney Ports) with the opportunity to comment on the Director-General's Requirements (DGRs) for the proposed land based works related to the Caltex Kurnell Refinery Conversion (SSD-5544). Sydney Ports has reviewed the Environmental Scoping Assessment and requests that a requirement be included within the DGRs for Sydney Ports and the Harbour Master to be consulted with during the preparation of the Environmental Assessment.

It should also be noted that a Harbour Master's Approval under Clause 67 of the *Management of Waters and Waterside Lands Regulation – NSW* may also be required for the proposed development following the issue of a planning approval. Similarly, works associated with SSD-5353 will also require the Harbour Master's Approval.

If you have any questions regarding these matters please contact me on 9296 4672.

Yours sincerely,



Greg Walls  
**Environmental Planner**

Date: 24 August 2012  
Our Ref: 10131 / 2009/002752-03  
Your Ref: SSD-554

Mr Chris Ritchie  
Manager – Industry, Mining & Industry Projects  
Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

ATTENTION: Glen Horal

Dear Mr Ritchie

### **Caltex Kurnell Refinery Conversion – SSD-5544**

Thank you for your letter dated 17 August 2012 requesting additional key issues and assessment requirements to be included in the Director-General's Requirements (DGRs) for the above proposed project.

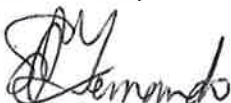
Although the Scoping Assessment Report (section 3.2.2 & section 4.2.1) refers to the fact that the site is a Major Hazard Facility, there is no mention of how the requirements of the *Work Health and Safety Act 2011* and *Work Health and Safety Regulation 2011* will be addressed.

It is therefore recommended that the following DGR be included.

*The proponent must consult with the Major Hazard Facilities Unit of WorkCover NSW with regard to matters that need to be addressed in the EIS to demonstrate that compliance with the requirements of the of the Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011 will be achieved.*

Should you have any queries, please contact me by telephone on (02) 8281 6485 or email [sohan.fernando@workcover.nsw.gov.au](mailto:sohan.fernando@workcover.nsw.gov.au).

Yours sincerely



Sohan Fernando  
Senior Safety Analyst  
Major Hazard Facilities Unit  
WorkCover NSW

TCV5MM File Ref. No: NFB/00841  
TRIM Doc. No: SFSU12/571  
Contact: FSO Alan W. Bruce

15 October 2012

NSW Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Email: [glenn.hornal@planning.nsw.gov.au](mailto:glenn.hornal@planning.nsw.gov.au)

Attention: Glenn Hornal

Dear Sir

**Re: Caltex Kurnell Refinery Conversion, (SSD-5544) 2 Solander St, KURNELL,  
NSW**

I refer to your correspondence dated 17 August 2012 requesting Fire and Rescue NSW (FRNSW) review and comment on a State Significant Development Proposal for Caltex's Kurnell Refinery Conversion (SSD -5544).

The submitted Environmental Scoping Assessment (ESA), developed by Rachel O'Hara of URS Australia Pty Ltd, is the Final version (42177815/01/02) and dated 9 August 2012. NSW Planning and Infrastructure received a request for the Director General's Requirements (DGR) from Caltex Refineries (NSW) Pty Ltd for a State Significant Development (SSD) application pursuant to Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). Consequently, the Director General (DG) has requested FRNSW to provide details of any key issues and assessment requirements which may be included in the DGR's.

FRNSW has reviewed the submitted ESA, and with regards to the Director General's requests, the following recommendations are provided for consideration and/or inclusion in the forthcoming EIS, Preliminary Hazard Screening Assessment (PHS) or PHA:

1. Any future studies, such as, an EIS, PHS or PHA should provide sufficient detail regarding a tank bund fire scenario.
2. A fire on-site has the potential to cause off-site risks, particularly during the conversion process, therefore any disruption or degradation of the installed firefighting services should be detailed in the forthcoming EIS, PHS or PHA.

3. Due to the proposed decrease in utilities, including firewater, FRNSW recommends that the any future studies, such as an EIS, PHS or PHA should include detail regarding the capacity of firewater to meet the demands of a credible on site fire scenario.

Should you have any further enquiries regarding any of the above matters, please do not hesitate to contact the Structural Fire Safety Unit.

Yours faithfully

Electronically approved for release

For Commissioner





Department of  
Primary Industries

OUT12/22289

11 SEP 2012

Mr Glen Hornal  
Mining and Industry Projects  
NSW Department of Planning and Infrastructure  
GPO Box 39  
SYDNEY NSW 2001

Dear Mr Hornal

**Caltex Kurnell Refinery Conversion (SSD-5544)  
Request for input into Director-General Requirements**

I refer to your letter of 17 August 2012 to the Department of Primary Industries in respect to the above matter.

The NSW Office of Water advises of the requirements listed in **Attachment A**. The Office also requests one (1) hard copy and one (1) CD copy of the completed Environmental Impact Statement and any other accompanying documentation. Should you require further information please contact Janne Grose, Planning and Assessment Coordinator (Penrith office) on (02) 4729 8262 or at: [janne.grose@water.nsw.gov.au](mailto:janne.grose@water.nsw.gov.au).

Fisheries NSW advises of the requirements listed in Attachment B. For further information please contact Carla Ganassin, Conservation Manager (Cronulla office), on (02) 9527 8552 or at: [carla.ganassin@dpi.nsw.gov.au](mailto:carla.ganassin@dpi.nsw.gov.au).

Crown Lands advises it has no requirements for the environmental assessment, but notes that Crown land adjacent to the site is subject to Aboriginal Land Claim. For further information please contact Stephen Fenn, Acting Senior Manager Crown Lands Sydney (Parramatta office) on 8236 7113 or at: [stephen.fenn@lands.nsw.gov.au](mailto:stephen.fenn@lands.nsw.gov.au).

Yours sincerely

A handwritten signature in black ink, appearing to read 'Phil Anquetil', written over a horizontal line.

Phil Anquetil  
**Executive Director Business Services**

## Attachment A

### **Caltex Kurnell Refinery Conversion (SSD-5544) Input into Director-General Requirements for Environmental Assessment Comment by NSW Office of Water**

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#### **Relevant Legislation**

The (EIS) should take into account the objects and regulatory requirements of the *Water Act 1912* and *Water Management Act 2000* (WMA 2000), as applicable. Proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the WMA 2000.

#### **Water Sharing Plans**

The proposal is located within the area covered by the *Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources* and the *Water Sharing Plan for the Greater Metropolitan Region Groundwater sources*. The EIS is required to:

- Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan (WSP) including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection, water quality and surface-groundwater connectivity.
- Provide a description of any site water use (amount of water from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.
- Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP.

Refer: <http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx>.

#### **Relevant Policies**

The EIS should take into account the following policies (as applicable):

- NSW State Rivers and Estuary Policy (1993);
- NSW State Groundwater Policy Framework Document (1997);
- NSW State Groundwater Quality Protection Policy (1998);
- NSW State Groundwater Dependent Ecosystems Policy (2002); and
- NSW Office of Water Guidelines for Controlled Activities (2012).

Refer: <http://www.water.nsw.gov.au/Water-management/Law-and-policy/Key-policies/default.aspx>

#### **Licensing Considerations**

The Office of Water notes the current site operations use potable water for water supply and the project is expected to reduce the overall potable water consumption by approximately 90 %.



The EIS is required to provide details on:

- Any proposed surface water and groundwater extraction and water supply works to take water.
- Any bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring.

### **Surface Water and Groundwater Assessment**

Section 3.2.3 of the Environmental Scoping Assessment report (ESA) indicates no impacts are anticipated to aquifers or other water sources due to the project. The EIS needs to provide adequate details to assess the potential impacts of the project on surface water, surrounding waterbodies and groundwater resources.

It would appear from the topographic map that a wetland and watercourse are located in the south-east corner of the refinery site. The site is surrounded by areas of conservation value including Botany Bay to the north of the site, Botany Bay National Park to the east and Towra Point Nature Reserve to the west of the site. The EIS is required to include the following:

- Details of all waterbodies, watercourses, wetlands and riparian areas on the site and in proximity to the site potentially affected by the project.
- A description of the design features and measures to be incorporated into the proposal to mitigate long term actual and potential environmental impacts.

It is noted surface runoff flows from the National Park into the site and surface drainage at the site flows towards the north-west into Quibray Bay and Botany Bay.

Section 4.2.3 of the ESA notes it is unlikely groundwater would be intercepted due to the minor nature of the construction works and the shallow footings required for pumps and other infrastructure and indicates procedures for dewatering and the disposal of waste water will be considered in the EIS. To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:

- The predicted highest groundwater table at the site.
- Any works likely to intercept, connect with or infiltrate the groundwater sources.
- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- A description of the flow directions and rates and physical and chemical characteristics of the groundwater source.
- The predicted impacts of any final landform on the groundwater regime.
- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.
- An assessment of the quality of the groundwater for the local groundwater catchment
- An assessment of groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).
- How the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Measures for preventing groundwater pollution so that remediation is not required.
- Protective measures for any groundwater dependent ecosystems (GDEs).
- Proposed methods of the disposal of waste water and approval from the relevant authority.
- The results of any models or predictive tools used.

Where potential impacts are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Any proposed monitoring programs, including water levels and quality data
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

### Groundwater Dependent Ecosystems

The EIS should provide details on the presence and distribution of GDEs in the vicinity of the site and:

- Demonstrate that the proposed development would maintain natural patterns of groundwater flow and not disrupt groundwater levels that are critical to GDEs;
- Identify any potential impacts on GDEs as a result of the proposal including:
  - The effect of the proposal on the recharge to groundwater systems;
  - The potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections;
  - The effect on the function of GDEs (habitat, groundwater levels, connectivity); and
  - Provide safeguard measures for any GDEs.

**End Attachment A**

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## Attachment B

### Caltex Kurnell Refinery Conversion (SSD-5544) Input into Director-General Requirements for Environmental Assessment Comment by Fisheries NSW

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#### **Aquaculture**

The EIS will need to consider *State Environmental Planning Policy 62 - Sustainable Aquaculture* and will need to demonstrate that there will be no impacts on water quality in Botany Bay which will adversely affect the local oyster industry. There are numerous Priority Oyster Aquaculture Areas in Botany Bay and the NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS) sets out the location of these, along with water quality guidelines. The OISAS can be accessed at:  
<http://www.dpi.nsw.gov.au/fisheries/aquaculture/publications/general/industry-strategy> .

#### **Aquatic Reserves**

It is essential the EIS assesses any impacts on aquatic reserves, especially Towra Point Aquatic Reserve, which is adjacent to the site. In this respect, the requirements of Section 197D of the *Fisheries Management Act 1994* for development in the locality of an aquatic reserve should be noted.

It is of concern to Fisheries NSW that the provided document *Report: Project Chemistry – Land Based Works – Environmental Scoping Assessment* does not include any mention of Towra Point Aquatic Reserve, including on page 29 where other reserves including Towra Point Nature Reserve, Boat Harbour Aquatic Reserve and Cape Banks Aquatic Reserve are listed. Similarly, page 15 of the report lists the Fisheries Management Act but does not discuss the relevant sections pertaining to development affecting an aquatic reserve.

The two potential impacts on aquatic reserves discussed in the report are surface water drainage issues, including releases of treated water into Quibray Bay in Towra Point Aquatic Reserve, and risks from fuel spills or accidents given the larger ships to be used and the different nature of the fuel to be shipped. These issues and other potential impacts on aquatic reserves should be further considered in the EIS and managed for in the subsequent Environmental Management Plan.

**End Attachment B**

Our Reference: SYD12/00982  
Your Reference: SSD 5544  
Contact: Ravi Raveendra  
Telephone: 8849 2520



**Transport**  
Roads & Maritime  
Services

Manager - Industry  
Mining & Industry Projects  
NSW Department of Planning & Infrastructure  
GPO Box 39  
Sydney NSW 2001

**Attention: Chris Ritchie**

**REQUEST FOR KEY ISSUES AND ASSESSMENT REQUIREMENTS  
STATE SIGNIFICANT DEVELOPMENT PROPOSAL – CALTEX KURNELL  
REFINERY CONVERSION, KURNELL**

Dear Sir / Madam,

I refer to your letter dated 17 August 2012 (Your Ref: SSD-5544) requesting the Roads and Maritime Services (RMS) to review the draft Director General's Requirements (DGRs) for the abovementioned development.

RMS provides details of key issues and assessment requirements as follows:

1. Hazardous materials should be transported using the designated dangerous goods routes. In this regard, a travel plan or map should be provided to DP&I which illustrates the routes for transportation of the dangerous goods to the subject site.
2. Consideration should be given to provide a transport risk assessment report or the Preliminary Hazard report to assess the impact of the increasing transportation of hazardous materials from the development.
3. Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need associated funding for upgrading or road enhancement improvement works.
4. Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (ie: turn paths, sight distance requirements, aisle widths, etc).
5. Proposed number of car parking spaces and compliance with the appropriate parking codes.
6. Details of service vehicle movements (including vehicle type and likely arrival and departure times).

Roads and Maritime Services

7. RMS requires the EA report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (eg 'Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.
8. RMS will require in due course the provision of a traffic management plan for all demolition/construction activities, detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures.

Further enquiries on this matter can be directed to the nominated Land Use & Transport Planner, Ravi Ravendra on phone 8849 2540 or facsimile (02) 8849 2918.

Yours sincerely



Chris Goudanas  
**Land Use Planning and Assessment Manager**  
**Transport Planning, Sydney Region**

19 September 2012

# Director-General's Requirements Response Table

**Appendix A2 Director-General’s Requirements: EIS Cross-Reference Table**

Government Authority	Requirement	Relevant EIS Chapter
<p><b>NSW Department of Planning and Infrastructure (DP&amp;I)</b></p>	<p><b>General Requirements</b></p>	
	<ul style="list-style-type: none"> <li>• The Environmental Impact Statement (EIS) must meet the minimum form and content requirements in clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</li> </ul> <p>In addition, the EIS must include a:</p> <ul style="list-style-type: none"> <li>• clear description of the existing operations carried out on the site and how the site operates lawfully under the <i>Environmental Planning and Assessment Act 1979</i> including any reliance on use rights and/or planning approvals;</li> <li>• detailed description of the development, including:                             <ul style="list-style-type: none"> <li>– the extent to which existing/continuing use rights and/or planning approvals are to continue to be relied on for the future operation of the site;</li> <li>– need for the proposed development;</li> <li>– justification for the proposed development;</li> <li>– likely staging of the development;</li> <li>– likely interactions between the development and existing, approved and proposed operations in the vicinity of the site including Caltex’s proposed Port and Berthing Project (SSD-5353);</li> <li>– the nature and destination of fuels to be received and distributed; and plans of all proposed building and conversion works.</li> </ul> </li> <li>• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments.</li> <li>• risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment.</li> <li>• detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes:                             <ul style="list-style-type: none"> <li>– a description of the existing environment, using sufficient baseline data;</li> <li>– an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and</li> <li>– a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment.</li> </ul> </li> <li>• consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.</li> <li>• The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified.</li> </ul>	<p>EIS Volume 1 and Volume 2.</p> <p>Chapter 3.</p> <p>Chapter 3.</p> <p>Chapter 2.</p> <p>Chapter 22.</p> <p>Chapter 4.</p> <p>Chapter 20.</p> <p>Chapter 4.</p> <p>Chapter 5.</p> <p>Chapter 7.</p> <p>Chapter 3 and Chapter 8 – Chapter 19.</p> <p>Chapter 8 – Chapter 20.</p> <p>Chapter 8 – Chapter 19.</p> <p>Chapter 21.</p> <p>EIS Volume 1 and Volume 2.</p>



Government Authority	Requirement	Relevant EIS Chapter
	<p><b>Hazards and Risks</b> - including:</p> <ul style="list-style-type: none"> <li>• a summary of the results of a Preliminary Hazard Analysis (PHA) undertaken for the proposed development. The PHA should be prepared in accordance with <i>Hazardous Industry Planning Advisory Paper No. 6 - Hazard Analysis</i> and it should, in particular:               <ul style="list-style-type: none"> <li>– Identify the hazards associated with the existing site and proposed development, as well as any external hazards (i.e. Natural hazards) to determine the potential for off-site impacts;</li> <li>– Demonstrate that the proposed development complies with the criteria set out in <i>Hazardous Industry Planning Advisory paper No 4 - Risk Criteria for Land Use Safety Planning</i>;</li> <li>– Estimate the cumulative impacts for the overall site and the surrounding potentially hazardous developments in the area and demonstrate that the proposed development does not increase the cumulative risks of the area to unacceptable levels;</li> <li>– The basis of the failure rates used in the PHA. These should be appropriate to the age and condition of the components of the proposed facility;</li> <li>– Address all relevant recommendations arising from the Buncefield incident; and</li> <li>– Address all recommendations of the Department's <i>Kurnell Peninsula Land Use Safety Study</i> relevant to the development.</li> </ul> </li> </ul>	<p>Chapter 8 and Appendix C.</p> <p>Chapter 8 and Appendix C.</p> <p>Chapter 8 and Appendix C.</p> <p>Chapter 20 and Appendix C.</p> <p>Chapter 8 and Appendix C.</p> <p>Chapter 8 and Appendix C.</p> <p>Chapter 8 and Appendix C.</p>
	<p><b>Noise and Vibration</b> – including:</p> <ul style="list-style-type: none"> <li>• an assessment of all construction, operational and transportation noise impacts on surrounding residential receivers;</li> <li>• any vibration impacts from construction and operation;</li> <li>• cumulative impacts of other developments both on the site and in the vicinity of the site; and</li> <li>• details of the proposed noise management and monitoring measures.</li> </ul>	<p>Chapter 12 and Appendix F.</p> <p>Chapter 11 and, Appendix F.</p> <p>Chapter 20 and Appendix F.</p> <p>Chapter 12 and Appendix F.</p>
	<p><b>Contamination</b> – including:</p> <ul style="list-style-type: none"> <li>• an assessment of any potential site contamination and details of all potential contamination sources;</li> <li>• how ecological and human health risks posed by contaminants on the site would be mitigated and managed;</li> <li>• identification of any contaminated soil likely to be impacted by the development;</li> <li>• proposed measures to be implemented in the event that soil contamination is encountered;</li> <li>• demonstration that the development will not impact on other remediation activities being undertaken in the vicinity; and</li> <li>• how site contamination will be remediated and managed for potential future uses.</li> </ul>	<p>Chapter 9 and Appendix D.</p> <p>Chapter 10 and Appendix D.</p> <p>Chapter 9 and Appendix D.</p> <p>Chapter 9, Chapter 21 and Appendix D.</p> <p>Chapter 9.</p> <p>Chapter 4 and Chapter 9.</p>



Government Authority	Requirement	Relevant EIS Chapter
	<p><b>Soil and Water</b> – including:</p> <ul style="list-style-type: none"> <li>an assessment of the potential soil, groundwater and surface water impacts of the development;</li> <li>identification of any water licensing requirements or other approvals under the Water Act 1912 and/or the Water Management Act 2000;</li> <li>demonstration that water for the development can be obtained from an appropriately authorised and reliable water supply in accordance with the operating rules of the relevant Water Sharing Plans;</li> <li>a detailed description of the mitigation and management controls that would be put in place to manage erosion and sediment, stormwater, spills and acid sulphate soil (if present);</li> <li>ways to reduce water supply and increase water reuse; and</li> <li>potential impacts of flooding, with consideration of climate change and projected sea level rises.</li> </ul>	<p>Chapter 9, Chapter 11, Appendix D and Appendix E.</p> <p>Chapter 5, Chapter 11 and Appendix E.</p> <p>Chapter 11 and Appendix E.</p> <p>Chapter 9, Chapter 11 and Chapter 21</p> <p>Chapter 4 and Chapter 11.</p> <p>Chapter 11 and Appendix E.</p>
	<p><b>Heritage</b> - including:</p> <ul style="list-style-type: none"> <li>an Aboriginal cultural heritage assessment (including both cultural and archaeological significance), which must demonstrate effective consultation with relevant Aboriginal community groups; and</li> <li>a non-Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must:                             <ul style="list-style-type: none"> <li>Include a statement of heritage impact (including significance assessment) for the site and any National, State significant or locally significant historic heritage items in the area, including the Kurnell Peninsula Headland; and</li> <li>Outline any proposed management and mitigation measures.</li> </ul> </li> </ul>	<p>Chapter 18 and Appendix H.</p> <p>Chapter 18 and Appendix H.</p> <p>Chapter 18 and Appendix H.</p> <p>Chapter 18 and Chapter 21 and Appendix H.</p>
	<p><b>Air Quality and Odour</b> – including:</p> <ul style="list-style-type: none"> <li>a quantitative assessment of the air quality and odour impacts of the development on surrounding receivers, including impacts from construction, operation and road transportation; and</li> <li>details of the proposed management and monitoring measures.</li> </ul>	<p>Chapter 13 and Appendix G.</p> <p>Chapter 13, Chapter 21 and Appendix G.</p>
	<p><b>Transport and Access</b> - including:</p> <ul style="list-style-type: none"> <li>accurate predictions of the traffic generated by the development;</li> <li>a detailed assessment of the potential impacts of the development on the capacity, efficiency and safety of the road network including the cumulative traffic generated by all existing and the proposed development;</li> <li>details of any upgrades to road infrastructure that would be required due to the development; and</li> <li>site accesses, internal roads and vehicular parking required as a result of the development.</li> </ul>	<p>Chapter 16.</p> <p>Chapter 16.</p> <p>Chapter 16.</p> <p>Chapter 16.</p>

Government Authority	Requirement	Relevant EIS Chapter
	<b>Greenhouse Gas</b> - including:	
	<ul style="list-style-type: none"> <li>a quantitative analysis of the Scope 1,2 and 3 greenhouse gas emissions of the development;</li> </ul>	Chapter 14.
	<ul style="list-style-type: none"> <li>a qualitative analysis of the impacts of these emissions; and</li> </ul>	Chapter 14.
	<ul style="list-style-type: none"> <li>details of the measures that would be employed to improve energy efficiency.</li> </ul>	Chapter 14.
	<ul style="list-style-type: none"> <li><b>Waste</b> - including:</li> </ul>	
	<ul style="list-style-type: none"> <li>accurate estimates of the quantity and classification of the potential liquid and non-liquid waste streams of the development;</li> </ul>	Chapter 17.
	<ul style="list-style-type: none"> <li>identification of beneficial reuse opportunities for all wastes generated by the development; and</li> </ul>	Chapter 17.
	<ul style="list-style-type: none"> <li>a description of the measures that would be implemented to ensure that any waste produced is appropriately handled, processed and disposed of.</li> </ul>	Chapter 17.
	<b>Visual</b> – including:	
	<ul style="list-style-type: none"> <li>impacts on surrounding receivers and from public areas.</li> </ul>	Chapter 7.
	<b>Biodiversity</b> – including consideration of potential impacts on:	
	<ul style="list-style-type: none"> <li>terrestrial and aquatic ecology, including the surrounding Botany Bay National Park, Towra Point Nature Reserve and Towra Point Aquatic Reserve; and</li> </ul>	Chapter 10, Chapter 19, Appendix D and Appendix I.
<ul style="list-style-type: none"> <li>the local oyster industry in Botany Bay.</li> </ul>	Chapter 10 and Appendix D.	
<b>Social and Economic</b>	Chapter 15	
<b>Consultation</b>		
<ul style="list-style-type: none"> <li>During the preparation of the EIS, you must consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners.</li> </ul>	Chapter 6.	
<ul style="list-style-type: none"> <li>In particular, you must consult with the:               <ul style="list-style-type: none"> <li>Environment Protection Authority; Fire and Rescue NSW; NSW Department of Primary Industries (Office of Water and NSW Fisheries)</li> <li>NSW Heritage Council;</li> <li>NSW Office of Environment and Heritage;</li> <li>NSW Transport (Roads and Maritime Services);</li> <li>Sutherland Shire Council;</li> <li>Sydney Metropolitan Catchment Management Authority;</li> <li>Sydney Ports; and</li> <li>WorkCover NSW.</li> </ul> </li> </ul>	Chapter 6.	
<ul style="list-style-type: none"> <li>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</li> </ul>	Chapter 6.	

Government Authority	Requirement	Relevant EIS Chapter
<p><b>Environment Protection Authority</b></p>	<p><b>Licensing Requirements –</b></p> <ul style="list-style-type: none"> <li>The EIS should also demonstrate how the conditions of the licence will be complied with and identify any need for the EPL to be varied should consent be granted.</li> </ul>	<p>Chapter 4 and throughout Appendices.</p>
	<p><b>Air Quality</b></p>	
	<ul style="list-style-type: none"> <li>The goals of the project should be to ensure:                             <ul style="list-style-type: none"> <li>Unacceptable impacts do not occur on human health or the environment</li> <li>No offensive odours are caused or permitted from the premises</li> <li>Emissions of dust from the premises are prevented or minimised; and</li> <li>All relevant guidelines in regards to ambient air quality are satisfied.</li> </ul> </li> </ul>	<p>Chapter 13 and Appendix G</p>
	<ul style="list-style-type: none"> <li>The EIS should include a detailed description of the proposal and identify and describe all processes and sources (including odour, dust and air toxics) that could result in air emissions. Sufficient detail to accurately communicate the characteristics and quantity of all emissions must be provided. A description of any proposed mitigation, monitoring and management measures the proponent intends to apply to ensure the above goals are satisfied should also be included</li> </ul>	<p>Chapter 13 and Appendix G</p>
	<ul style="list-style-type: none"> <li>For all point and fugitive sources, the EIS must demonstrate that emissions will be minimised to the maximum extent achievable through the application of best practice process design and/or emission controls. The EIS should specify any proposed management protocols, pollution control equipment and emission control techniques/practices that will be employed as part of the project.</li> </ul>	<p>Chapter 13 and Appendix G</p>
<ul style="list-style-type: none"> <li>The EIS should also include an assessment of the risk associated with potential discharges of fugitive and point source emissions for all stages of the project. Assessment of risk relates to environmental harm, risk to human health and amenity. Where appropriate, the EIS should include air dispersion modelling where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment. The EIS should justify the level of assessment undertaken on the basis of risk factors including proposal location, characteristics of the receiving environment and type and quantity of pollutants emitted.</li> </ul>	<p>Chapter 13 and Appendix G</p>	
<ul style="list-style-type: none"> <li>The EIS should demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the <i>PoEO Act 1997</i> and the <i>PoEO (Clean Air) Regulation 2010</i></li> </ul>	<p>Chapter 13 and Appendix G</p>	
<p><b>Water Quality</b></p>		
<ul style="list-style-type: none"> <li>The environmental outcomes for the project should be to ensure:                             <ul style="list-style-type: none"> <li>There is no pollution of waters (including surface and groundwater) except in accordance with licence requirements.</li> <li>Wastewater is collected, treated and beneficially reused, where this is safe and practicable to do so.</li> </ul> </li> </ul>	<p>Chapter 11 and Appendix E</p>	
<ul style="list-style-type: none"> <li>The EIS should describe the nature and degree of any likely impacts that the proposed project may have on the receiving environment and clearly outline the proposed mitigation, monitoring and management measures the proponent intends to apply to the project to ensure the above outcomes are satisfied.</li> </ul>	<p>Chapter 11 and Appendix E</p>	

Government Authority	Requirement	Relevant EIS Chapter
	<ul style="list-style-type: none"> <li>The proposed project will involve the conversion of tanks and line systems and installation of new pumps and pipelines for the transfer product. The EIS should address the potential for any product spills from these works and any necessary bunding and/or spill management measures that may need to be implemented.</li> <li>Stormwater management should also be carefully considered in relation to the proposed development. The EIS should document the soil and water management controls that will be implemented during the project to minimise any potential impacts on water quality. Caltex are currently completing a stormwater catchment and management program as part of a Pollution Reduction Program. The outcome of this program should be taken into consideration for the stormwater management required for the project.</li> <li>In addition to the above, the EIS should also provide an update on the future of the proposed Caltex Kurnell Recycled Water Project which was for the construction and operation of a water recycling plant within the Kurnell Refinery premises.</li> <li>Section 2.7.1 of the scoping assessment report discusses the conversion process for the petroleum storage tanks. In addition to the activities listed in the report, the proponent should also review the condition and adequacy of the existing tank bunding and their ability to contain any potential spills. The EIS should include information on the tanks that will be decommissioned as well as which tanks will contain which finished products.</li> </ul>	<p>Chapter 11 and Appendix E</p> <p>Chapter 11 and Appendix E</p> <p>The recycled water project is no longer progressing, as discussed with the EPA on 5/11/12.</p> <p>Chapter 11 and Appendix E.</p>
	<p><b>Contaminated Sites</b></p> <ul style="list-style-type: none"> <li>The EIS should undertake an assessment of the project area for any potential site contamination and summarise all potential contamination sources (including soil, surface water and groundwater) on or related to the site. The EIS should determine the likelihood of any impacts (including any potential offsite migration of contamination) occurring as a result of the project and detail any proposed mitigation and monitoring measures that will be implemented in the event that soil contamination is encountered. If there are any identified limitations during the assessment process, the EIS must clearly identified the limitations and outline a plan to fill any data gaps including details of any proposed staging of investigation activities.</li> <li>The EIS should provide the details on how the site contamination will be remediated and managed so that the site is, or can be, made suitable for proposed future uses. Clarification on any potential future uses should also be detailed in the EIS.</li> <li>The EIS should also specify whether or not a site auditor, accredited under the Contaminated Land Management Act 1997, has been or will be engaged to issue a site audit statement to certify on the suitability of the current or proposed uses.</li> </ul>	<p>Chapter 9, Chapter 10, Chapter 11, Appendix E and Appendix D.</p> <p>Chapter 9.</p> <p>Chapter 4.</p>

Government Authority	Requirement	Relevant EIS Chapter
	<p><b>Noise and Vibration</b></p> <ul style="list-style-type: none"> <li>• The environmental outcome of the project should be to minimise adverse impacts due to noise and vibration from the project. The EIS must include an assessment of the predicted noise impacts associated with the project in accordance with the EPA's Interim Construction Noise Guidelines and Industrial Noise Policy. The assessment should include, but need not be limited to:                             <ul style="list-style-type: none"> <li>- identification and assessment of all potential noise sources associated with the conversion works. This may include any demolition, construction and operational noises from the project and associated shipping movements</li> <li>- identify the locations of all sensitive receptors</li> <li>- the proposed hours of construction and operation of the conversion works</li> <li>- an assessment of compliance with the project specific noise levels as determined using the above guidelines; and</li> <li>- any proposed noise mitigation, monitoring and management measures which are necessary to achieve the above outcome</li> </ul> </li> <li>• If there is likely to be any vibration impacts associated with the proposed project, the EIS should also include an assessment of the predicted vibration impacts associated with the project.</li> <li>• The EPA is aware that there are currently a number of projects which relate to the Kurnell peninsula including several projects on Caltex's premises. These projects include the Maintenance Dredging around Caltex's wharf, the demolition of the Caltex Lube Oil Refinery and the possible future demolition of the Continental Carbon premises. Depending on the timeframes for these projects, the noise assessment may need to consider the cumulative impacts that these projects may have on the Kurnell area during the construction and operation of the project.</li> </ul>	<p>Chapter 12 and Appendix F.</p> <p>Chapter 12 and Appendix F.</p> <p>Chapter 12, Chapter 20 and Appendix F.</p>
	<p><b>Waste</b></p> <ul style="list-style-type: none"> <li>• The goal of the project should be to ensure waste is managed:                             <ul style="list-style-type: none"> <li>- In accordance with the principles of the waste hierarchy and cleaner production;</li> <li>- The handling, processing and storage of all materials used at the premises does not have negative environmental or amenity impacts; and</li> <li>- The beneficial reuse of all wastes generated at the premises are maximised where it is safe and practical to do so.</li> </ul> </li> <li>• The EIS should identify, characterise and classify all waste that will be generated and disposed of as a result of the proposed project. Proposed quantities of waste and disposal locations must be detailed in the assessment and should include waste that is ended for reuse and/or recycling.</li> <li>• The EIS should also provide details of how waste will be handled and managed both onsite and offsite to minimise pollution. This should include information on the procedures and protocols to be implemented to ensure that any waste leaving the site is transported and disposed of lawfully and does not pose a risk to human health or the environment. If the waste possesses hazardous characteristics, the EIS must provide details of how the waste will be treated or immobilised to render it suitable for transport and disposal.</li> <li>• Section 4.2.12 of the scoping assessment report states that "<i>No demolition of the major structures on site is included as part of this project</i>". The EIS must confirm whether any demolition of process equipment will occur as part of this project.</li> </ul>	<p>Chapter 17.</p> <p>Chapter 17.</p> <p>Chapter 17.</p> <p>Chapter 4.</p>



Government Authority	Requirement	Relevant EIS Chapter
	<ul style="list-style-type: none"> <li>All waste must be classified in accordance with EPA's <i>Waste Classification Guidelines</i>.</li> </ul>	Chapter 17.
Department of Primary Industries (Water and Fisheries)	<ul style="list-style-type: none"> <li>The (EIS) should take into account the objects and regulatory requirements of the <i>Water Act 1912</i> and <i>Water Management Act 2000</i> (WMA 2000), as applicable. Proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the WMA2000.</li> </ul>	Chapter 5
	<p><b>Water Sharing Plans</b></p> <ul style="list-style-type: none"> <li>The proposal is located within the area covered by the Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources and the Water Sharing Plan for the Greater Metropolitan Region Groundwater sources. The EIS is required to: <ul style="list-style-type: none"> <li>Demonstrate how the proposal is consistent with the relevant rules of the Water Sharing Plan (WSP) including rules for access licences, distance restrictions for water supply works and rules for the management of local impacts in respect of surface water and groundwater sources, ecosystem protection, water quality and surface-groundwater connectivity.</li> <li>Provide a description of any site water use (amount of water from each water source) and management including all sediment dams, clear water diversion structures with detail on the location, design specifications and storage capacities for all the existing and proposed water management structures.</li> <li>Provide an analysis of the proposed water supply arrangements against the rules for access licences and other applicable requirements of any relevant WSP.</li> </ul> </li> <li>The Office of Water notes the current site operations use potable water for water supply and the project is expected to reduce the overall potable water consumption by approximately 90 %.</li> <li>The EIS is required to provide details on: <ul style="list-style-type: none"> <li>Any proposed surface water and groundwater extraction and water supply works to take water.</li> <li>Any bores and excavations for the purpose of investigation, extraction, dewatering, testing and monitoring.</li> </ul> </li> <li>Section 3.2.3 of the Environmental Scoping Assessment report (ESA) indicates no impacts are anticipated to aquifers or other water sources due to the project. The EIS needs to provide adequate details to assess the potential impacts of the project on surface water, surrounding waterbodies and groundwater resources.</li> <li>It would appear from the topographic map that a wetland and watercourse are located in the south-east corner of the refinery site. The site is surrounded by areas of conservation value including Botany Bay to the north of the site, Botany Bay National Park to the east and Towra Point Nature Reserve to the west of the site. The EIS is required to include the following: <ul style="list-style-type: none"> <li>Details of all waterbodies, watercourses, wetlands and riparian areas on the site and in proximity to the site potentially affected by the project.</li> <li>A description of the design features and measures to be incorporated into the proposal to mitigate long term actual and potential environmental impacts.</li> </ul> </li> </ul>	<p>Chapter 11 and Appendix E.</p> <p>Chapter 9, Chapter 11 and Appendix E.</p> <p>Chapter 9, Chapter 10, Chapter 11, Appendix D and Appendix E.</p> <p>Chapter 4, Chapter 10, Chapter 11, Appendix D, Appendix E and Appendix I.</p>

Government Authority	Requirement	Relevant EIS Chapter
	<ul style="list-style-type: none"> <li>• To ensure the sustainable and integrated management of groundwater sources, the EIS needs to include adequate details to assess the impact of the project on all groundwater sources including:                             <ul style="list-style-type: none"> <li>- The predicted highest groundwater table at the site.</li> <li>- Any works likely to intercept, connect with or infiltrate the groundwater sources.</li> <li>- Any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.</li> <li>- A description of the flow directions and rates and physical and chemical characteristics of the groundwater source.</li> <li>- The predicted impacts of any final landform on the groundwater regime.</li> <li>- The existing groundwater users within the area (including the environment), any potential impacts on these users and safeguard measures to mitigate impacts.</li> <li>- An assessment of the quality of the groundwater for the local groundwater catchment</li> <li>- An assessment of groundwater contamination (considering both the impacts of the proposal on groundwater contamination and the impacts of contamination on the proposal).</li> <li>- How the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.</li> <li>- Measures for preventing groundwater pollution so that remediation is not required.</li> <li>- Protective measures for any groundwater dependent ecosystems (GDEs).</li> <li>- Proposed methods of the disposal of waste water and approval from the relevant authority.</li> <li>- The results of any models or predictive tools used.</li> </ul> </li> <li>• Where potential impacts are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:                             <ul style="list-style-type: none"> <li>- Any proposed monitoring programs, including water levels and quality data</li> <li>- Reporting procedures for any monitoring program including mechanism for transfer of information.</li> <li>- An assessment of any groundwater source/aquifer that may be sterilised from future use as a water supply as a consequence of the proposal.</li> <li>- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).</li> <li>- Description of the remedial measures or contingency plans proposed.</li> <li>- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.</li> </ul> </li> </ul>	<p>Chapter 4, Chapter 9, Chapter 11 and Appendix E.</p> <p>Chapter 9, Chapter 11, Appendix D and Appendix E</p>



Government Authority	Requirement	Relevant EIS Chapter
	<p><b>Groundwater Dependent Ecosystems</b></p> <ul style="list-style-type: none"> <li>• The EIS should provide details on the presence and distribution of GDEs in the vicinity of the site and:               <ul style="list-style-type: none"> <li>– Demonstrate that the proposed development would maintain natural patterns of groundwater flow and not disrupt groundwater levels that are critical to GDEs;</li> <li>– Identify any potential impacts on GDEs as a result of the proposal including:                   <ul style="list-style-type: none"> <li>○ The effect of the proposal on the recharge to groundwater systems;</li> <li>○ The potential to adversely affect the water quality of the underlying groundwater system and adjoining groundwater systems in hydraulic connections;</li> <li>○ The effect on the function of GDEs (habitat, groundwater levels, connectivity); and</li> <li>○ Provide safeguard measures for any GDEs.</li> </ul> </li> </ul> </li> </ul>	Chapter 9, Chapter 11, Chapter 19, Appendix E
	<p><b>Aquaculture</b></p> <ul style="list-style-type: none"> <li>• The EIS will need to consider <i>State Environmental Planning Policy 62 -Sustainable Aquaculture</i> and will need to demonstrate that there will be no impacts on water quality in Botany Bay which will adversely affect the local oyster industry. There are numerous Priority Oyster Aquaculture Areas in Botany Bay and the NSW Oyster Industry Sustainable Aquaculture Strategy (OISAS) sets out the location of these, along with water quality guidelines.</li> </ul>	Chapter 9, Chapter 10, Chapter 11, Chapter 19, Appendix E
	<p><b>Aquatic Reserves</b></p> <ul style="list-style-type: none"> <li>• It is essential the EIS assesses any impacts on aquatic reserves, especially Towra Point Aquatic Reserve, which is adjacent to the site. In this respect, the requirements of Section 1970 of the <i>Fisheries Management Act 1994</i> for development in the locality of an aquatic reserve should be noted.</li> <li>• It is of concern to Fisheries NSW that the provided document Report: Project Chemistry - Land Based Works -Environmental Scoping Assessment does not include any mention of Towra Point Aquatic Reserve, including on page 29 where other reserves including Towra Point Nature Reserve, Boat Harbour Aquatic Reserve and Cape Banks Aquatic Reserve are listed. Similarly, page 15 of the report lists the Fisheries Management Act but does not discuss the relevant sections pertaining to development affecting an aquatic reserve</li> <li>• The two potential impacts on aquatic reserves discussed in the report are surface water drainage issues, including releases of treated water into Quibray Bay in Towra Point Aquatic Reserve, and risks from fuel spills or accidents given the larger ships to be used and the different nature of the fuel to be shipped. These issues and other potential impacts on aquatic reserves should be further considered in the EIS and managed for in the subsequent Environmental Management Plan.</li> </ul>	Chapter 9, Chapter 10, Chapter 11, Chapter 19, Appendix D and Appendix E.  Chapter 10, Chapter 11, Chapter 19, Appendix D and Appendix E.  Chapter 9, Chapter 10, Chapter 11, Chapter 19, Appendix D and Appendix E.
Sutherland Shire Council	<p><b>Future Plans/Use of Remaining Portion of Site</b></p> <ul style="list-style-type: none"> <li>• It is understood that following conversion, Caltex is proposing to use 60% of the tanks currently on site for the storage of finished fuel product, product mixes and site effluent water. There is no mention of the potential use of the remaining portion on site that will no longer be required. The applicant should be required to provide details of plans for the remaining portion of the site and the condition it will be left in following the conversion of the site.</li> </ul>	Chapter 4.



Government Authority	Requirement	Relevant EIS Chapter
	<b>Contamination</b>	
	<ul style="list-style-type: none"> <li>An appropriate Remediation Action Plan (RAP) should also be submitted outlining how the applicant proposes to remediate the site for future use.</li> </ul>	Chapter 4.
	<b>Ecological Considerations</b>	
	<ul style="list-style-type: none"> <li>It should be reinforced that the ecological assessment must address both direct and indirect impacts associated with the proposed works.</li> </ul>	Chapter 10, Chapter 19, Appendix D and Appendix I.
	<b>Acid Sulfate Soils</b>	
	<ul style="list-style-type: none"> <li>Further consideration of ASS may be required dependant on the depth and extent of excavation required to facilitate the proposed works.</li> </ul>	Chapter 9.
	<b>Residential Amenity</b>	
	<ul style="list-style-type: none"> <li>As the site is adjacent to residential properties, consideration needs to be given to how their amenity will be protected. This may include control of noise, odours, working hours, vehicle movements and the like.</li> </ul>	Chapter 4, Chapter 12, Chapter 13, Chapter 16 and Chapter 21.
<b>Sydney Ports Corporation</b>	<b>General Requirements</b>	
	<ul style="list-style-type: none"> <li>Sydney Ports has reviewed the Environmental Scoping Assessment and requests that a requirement be included within the DGRs for Sydney Ports and the Harbour Master to be consulted with during the preparation of the Environmental Assessment.</li> </ul>	Chapter 6
	<ul style="list-style-type: none"> <li>It should also be noted that a Harbour Master's Approval under Clause 67 of the Management of Waters and Waterside Lands Regulation -NSW may also be required for the proposed development following the issue of a planning approval. Similarly, works associated with SSD-5353 will also require the Harbour Master's Approval.</li> </ul>	Chapter 6
	<ul style="list-style-type: none"> <li>It is therefore recommended that the following DGR be included:                             <ul style="list-style-type: none"> <li>The proponent must consult with the Major Hazard Facilities Unit of WorkCover NSW with regard to matters that need to be addressed in the EIS to demonstrate that compliance with the requirements of the of the Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011 will be achieved.</li> </ul> </li> </ul>	Chapter 6
<b>Fire and Rescue</b>	<b>General Requirements</b>	
	<ul style="list-style-type: none"> <li>FRNSW has reviewed the submitted ESA, and with regards to the Director General's requests, the following recommendations are provided for consideration and/or inclusion in the forthcoming EIS, Preliminary Hazard Screening Assessment (PHS) or PHA:                             <ul style="list-style-type: none"> <li>Any future studies, such as, an EIS, PHS or PHA should provide sufficient detail regarding a tank bund fire scenario.</li> <li>A fire on-site has the potential to cause off-site risks, particularly during the conversion process, therefore any disruption or degradation of the installed firefighting services should be detailed in the forthcoming EIS, PHS or PHA.</li> <li>Due to the proposed decrease in utilities, including firewater, FRNSW recommends that the any future studies, such as an EIS, PHS or PHA should include detail regarding the capacity of firewater to meet the demands of a credible on site fire scenario.</li> </ul> </li> </ul>	Chapter 6, Chapter 8 and Appendix C.

Government Authority	Requirement	Relevant EIS Chapter
<b>Workcover</b>	<ul style="list-style-type: none"> <li>The proponent must consult with the Major Hazard Facilities Unit of WorkCover NSW with regard to matters that need to be addressed in the EIS to demonstrate that compliance with the requirements of the of the Work Health and Safety Act 2011 and Work Health and Safety Regulation 2011 will be achieved.</li> </ul>	Chapter 6.
<b>Roads and Maritime Services</b>	<p><b>General Requirements</b></p> <ul style="list-style-type: none"> <li>Hazardous materials should be transported using the designated dangerous goods routes. In this regard, a travel plan or map should be provided to DP&amp;I which illustrates the routes for transportation of the dangerous goods to the subject site.</li> <li>Consideration should be given to provide a transport risk assessment report or the Preliminary Hazard report to assess the impact of the increasing transportation of hazardous materials from the development.</li> <li>Daily and peak traffic movements likely to be generated by the proposed development including the impact on nearby intersections and the need associated funding for upgrading or road enhancement improvement works.</li> <li>Details of the proposed accesses and the parking provisions associated with the proposed development including compliance with the requirements of the relevant Australian Standards (i.e.: turn paths, sight distance requirements, aisle widths, etc.).</li> <li>Proposed number of car parking spaces and compliance with the appropriate parking codes.</li> <li>Details of service vehicle movements (including vehicle type and likely arrival and departure times).</li> <li>RMS requires the EA report to assess the implications of the proposed development for non-car travel modes (including public transport use, walking and cycling); the potential for implementing a location-specific sustainable travel plan (e.g. Travelsmart' or other travel behaviour change initiative); and the provision of facilities to increase the non-car mode share for travel to and from the site. This will entail an assessment of the accessibility of the development site by public transport.</li> <li>RMS will require in due course the provision of a traffic management plan for all demolition/construction activities, detailing vehicle routes, number of trucks, hours of operation, access arrangements and traffic control measures.</li> </ul>	<p>Chapter 16.</p> <p>Chapter 8, Chapter 16 and Appendix C</p> <p>Chapter 16.</p> <p>Chapter 4 and Chapter 16.</p> <p>Chapter 16.</p> <p>Chapter 16.</p> <p>Chapter 16.</p> <p>Chapter 16.</p>