ATTACHMENT A

DEPARTMENT OF ENVIRONMENT AND CONSERVATION ISSUES TO BE CONSIDERED IN THE PREPARATION OF AN ENVIRONMENTAL IMPACT STATEMENT FOR PROPOSED EASTERN BASIN BERTH No 4 INNER HARBOUR, PORT KEMBLA

PREAMBLE

The Department has been advised that the proposed development will be located to the north of the existing Coal Berth within the Eastern Basin, Inner Harbour of Port Kembla. We understand that the proposed berth is expected to have an anticipated throughput of 200,000 tonnes of bulk cargo, 200,000 tonnes of break-bulk cargo, and 20,000 tonnes of containerised trade per annum. The proposal also indicated that approximately 96,000 m^3 of sediments will be dredged from the vicinity of the berth.

Licensing Issues

The proposed berth will trigger the scheduled activity of "Shipping facilities (bulk)" and "Dredging Works" as described in Schedule 1 of the Protection of the Environment Operations (POEO) Act 1997 and as such, will require an Environment Protection Licence from the Environment Protection Authority (EPA) for this activity. The proponent should also document in the Environmental Impact Statement (EIS) an assessment of licensing requirements for other scheduled activities, such as "chemical storage facilities," that may also trigger the need for licensing. The Department of Environment and Conservation (DEC) recommends that the proponent should consult the guidance material on "*Licensing Under the Protection of the Environment Operations Act*". A copy of these guidelines is available from the Department's Pollution Line on 131 555 and on www.epa.nsw.gov.au

Aboriginal Heritage and Threatened Species

The Department has a statutory responsibility for the protection and care of native flora, native fauna and Aboriginal objects and places. Accordingly, the DEC has an interest in ensuring that potential impacts to these attributes are appropriately assessed and managed. It is understood that the site is highly disturbed and the likelihood of impacts on Aboriginal heritage, threatened species and habitat values may be low. Nevertheless, threatened species, including Green and Golden Bell Frog have been recorded in the Port Kembla area and an appropriate level of assessment should be conducted to determine the habitat value of the site for native species. Attached is a copy of the National Parks and Wildlife Service "General Guidelines for Impact Assessment" that contains details on the information considered necessary to assess the potential impact of the proposal on flora, fauna and Aboriginal heritage that should be of assistance in the preparation of the EIS.

The proposed dredging and spoil disposal activity may have a negative impact on marine mammals and reptiles particularly if the works are conducted during the whale migration season. Consequently, it would be prudent if a qualified marine ecologist conducts an 8 part test under the Environmental Planning and Assessment Act for the proposed works to determine the level of impacts to marine mammals and reptiles listed under the Threatened Species Conservation Act, 1995.

Executive Summary

The executive summary should include an overview discussion of the extent to which the proposal achieves the identified environmental outcomes. The extent of the development must be fully detailed in the EIS including all stages of the proposed development (construction and routine operation) and those activities which could be directly or indirectly impacted by the proposal.

Reasons for the proposal
The EIS needs to clearly state:
- The reasons for the proposed development;
- The staging and timing of the proposal;
- The proposal's relationship to any other industry; and
- Whether there are any alternatives to the proposal and the implications of such proposals.

1. SCOPE OF WORKS

1.1 Define the premises (including any other premises associated with the proposed activity) relevant to the Development Application and licensing under the POEO Act 1997 and details of the land use zoning.

1.2 Describe the surrounding land uses, planning zonings and any future changes in land uses surrounding the premises (potential synergies and conflicts) and identify all potentially affected areas/sensitive receptors.

1.3 Provide details on the site history, previous industrial activity and potential site contamination; topography of the proposed site (for example landform element, slope type, gradient and length).

1.4 Describe the scope of work for the proposed development including schematics of the location and layout of the site, incoming and outgoing materials, all equipment or activities which will be installed or undertaken at the site as a result of the proposed development (storage/stockpile areas, processing areas, truck cleaning, maintenance areas and wastewater pits etc).

1.5 Provide details on construction timetable and staging; hours of construction, environment protection measures, including water controls, noise mitigation measures, dust control measures and waste management.

1.6 Outline construction works including:
   a) Any disturbance of existing contaminated soil and actions to address the soil contamination;
   b) any earthworks or site clearing; source, characteristics and quantities of any fill required; re-use and disposal of cleared material.

1.7 Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.

2. AIR

Environmental Outcomes
The development must be designed, constructed, operated and maintained so that the following environmental outcomes are achieved:
- There is no offensive odour beyond the boundary of the premises.
- Visible dust emissions are minimised.

The DEC considers that the following policies and guidelines need to be considered when taking into account air quality issues on site:
- zNSW EPA, 2001, *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW.*

These documents are available at http://www.epa.nsw.gov.au/air/

The assessment should consider all phases and ancillary activities and identify all activities likely to generate air impacts or have the potential to cause harmful effects on the environment including

health and amenity, and all related environmental issues and identify those measures that will ameliorate those impacts.

A potential odour generating activity may be the dredging activity. Understanding the potential for the sediment to generate odour should be undertaken as part of the sediment sampling and analysis program. This could then form the basis of the odour assessment and assist in identifying appropriate odour mitigation management strategies if required.

The EIS should also include an assessment of potential sources of dust during the construction and operation of the development and identification of measures to be implemented to meet the above environmental outcome.

The assessment should consider all phases and ancillary activities and identify all activities likely to generate air impacts or have the potential to cause harmful effects on the environment including health and amenity.

Issues to be addressed

2.1 Assess all potential air emissions including, but not necessarily limited to the following:
- (a) Identify potential sources of dust and odour during the construction and operation of the development.
- (b) Identify measures/controls including procedures for handling, transport, and storage of materials to be implemented to meet the environmental outcomes specified above.

Where ongoing air emissions/impacts are identified, it is recommended that an Air Assessment Report be prepared in accordance with the "*Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales*".

2.2 Provide information on the management of solid, liquid and gaseous waste streams with potential for significant air impacts.

2.3 Provide information on other mitigation measures including:
- a) training of operational staff;
- b) clean work practices;
- c) enclosure of facilities likely to generate odour or dust, covering or spraying of stockpiles, covering of trucks/enclosed containers, measures to clean road and hardstand areas to prevent wind blown dust emissions.

2.4 Provide details on the design of buildings and materials transfer/storage infrastructure with the objective of minimising wind effects and resultant emissions (for example, enclosed conveyor belts, transfer points & storage areas, covered trucks).

2.5 Detail measures showing how vehicular kilometres travelled (VKT) will be minimised and what measures are to be used to minimise the potential air quality impact of associated increased truck movements, and the potential for alternative methods of transport or using LPG in vehicles. Opportunities should be explored to maximise the haulage of material by rail.

2.6 Trafficable areas to be permanently sealed.

3. WATER QUALITY, STORMWATER MANAGEMENT AND DREDGING

Environmental outcomes

The facility must be designed, constructed, operated and maintained so that:

- All polluted water (including wash down waters and polluted stormwater) is captured on the site and directed to reticulated sewer where available or else collected, treated and beneficially reused, where this is consistent with environmental and health guidelines and complies with Section 120 of the Protection of the Environment Operations Act 1997;

- Bunding is in accordance with the EPA technical guidelines *'Bunding and Spill Management'* and designed for no-discharge.

The EIS should include a comprehensive water pollution control program covering construction and post construction phases. The EIS should also include information concerning the following:

3.1 Details are required on the surface and groundwater hydrological catchments including the existing water environment.

3.2 Description of any potential sources of pollution and assessment of the pollutant characteristics. (Note: The assessment should consider the implications of any contaminated groundwater and its management as a result of any past land use activities).

3.3 An integrated water management program should be developed for the site, which addresses all aspects of the water cycle. The aim of the plan should be to maximise the potential for reuse and minimise water demand and the risk of water pollution.

3.4 Details on soil and water management for the site during the construction phase of the development in accordance with the following two guidelines, *"Managing Urban Stormwater Soils and Construction"* and *"Managing Urban Stormwater Treatment Techniques"*.

3.5 Details on stormwater management during the operational phase of the development including separate controls for defined dirty and clean areas of the site and details on the performance of the existing storm water management system. (Note: If a first flush system is proposed the system must be designed, at a minimum, to capture 10mm of rainfall per square metre of catchment area over a 24 hour period)

3.6 As assessment of the adequacy of the design and management measures to minimise impacts, including those to prevent and control any discharges from the premises.

3.7 The implications of the proposed development on existing EPL requirements.

3.8 Details of any equipment maintenance areas, including washdown facilities, oil and water separation.

3.9 Details on the use of any chemicals or fuels on site and their storage.

3.10 Provide details on progressive rehabilitation to minimise the extent of area exposed pre, during and post construction.

3.11 Provide details on proposed monitoring regime of pollution control measures at the site.

3.12 All the waste from amenities blocks should be directed to reticulated sewer.

Dredging

The history of Port Kembla Harbour is one of industrial activity, so there is a potential for the Harbour to be contaminated with unknown levels of pollutants. To assess the levels of pollutants in the sediments we recommend the development of a sampling and analysis program for inclusion in the EIS. Environment Australia *National Ocean Disposal Guidelines for Dredged Material*, May 2002 provide adequate guidance on sediment sampling of the dredging and disposal sites. We have also attached an extract from the EPA Victorian Best Practice Environmental Management *Guidelines for Dredging* October 2001 (See Attachment B) for your consideration. We also recommend that the proponent consult with the DEC on a sampling and testing program for the sediments.

While Port Kembla Harbour is a highly disturbed ecosystem there have been significant improvements in water quality, therefore the appropriate best practice measures for dredging activities should be adopted and described in the EIS for the proposed development.

Details would need to be provided on the dredging technique. Any dredging would require the installation of silt curtains around the proposed dredging site to minimise the migration of polluted water to adjacent areas. The silt curtain would also be required to be designed, installed and maintained to minimise the egress of sediment and pollutants beyond the silt curtain, including under the lower edge. Details on the design of the silt curtains including its associated management would need to be provided in the EIS.

The following information would also need to be included in the EIS:

- Clarification of the expected quantity of material to be dredged from the site.
- Pollution controls during the dredging of the site.
- Any likely impacts on the surrounding aquatic environment, including impacts to flora and fauna associated with the dredging of the site. (Note: Appropriate buffer distances around any sensitive areas must be maintained).
- Amelioration and/or emplacement/management techniques proposed to deal with any acid sulfate soils encountered.
- Pollution controls associated with emplacement/management of the dredge material.
- Any expected marine impacts associated with the emplacement/management of dredge spoil.
- The proposed water quality monitoring to measure the performance of the controls.

Emplacement/management of dredge spoil

The submitted information indicates that the dredged material would be transported off shore for disposal. If an approval is forth coming from Environment Australia for ocean emplacement, the EIS should detail the assessment process and any conditions of approval. In addition the documentation should detail the measures which will be implemented by the proponent to ensure compliance with the conditions. DEC considers that the approval should first be obtained from Environment Australia prior to submitting the EIS for assessment as the management of this material would be a critical component of the development.

Where dredged material is proposed to be beneficially utilised in berth reclamation works, the quantity and quality of the dredged sediments must be included in the EIS. In addition the characteristics of the sediments, its suitability for use as fill and potential environmental impacts on surface and groundwater water, and odour generation during reclamation works, should be addressed. Assessment of the dredged sediments should be of sufficient quality and quantity to make a rigorous determination about whether emplacement of this material might trigger the Significant Risk of Harm provisions of the Contaminated Land Management Act.

Slag

If slag is proposed to be used in any reclamation works the quantity and quality of slag must be included in the EIS. This should also include details on a Quality Assurance/Quality Control program. In addition the characteristics of the slag, its suitability for use as fill and potential environmental impacts on water quality should be addressed.

4. NOISE

Environmental outcomes

- The construction, operation and maintenance of the proposed facility must not cause offensive noise at the nearest affected receiver.

The Department considers that the following Noise Policies and Issues should form the basis for noise assessment and control of this development:

- Environmental Noise Management Series: NSW Industrial Noise Policy, January 2000.
- Environmental Noise Management Series: Environmental Criteria for Road Traffic Noise, May 1999.

The Noise Impact Assessment prepared as part of an EIS should include all aspects of ambient noise monitoring, assessment of noise impacts from construction and operational phases, and proposed mitigation measures for each stage.

Issues to be addressed

4.1 Identify all noise sources/activities (for example, alarms, skips, material transfer including ancillary activities such as transport of goods and raw materials) and determine expected noise level and noise character, for example, tonality, impulsiveness, vibration) likely to be generated from noise sources/activities at the most sensitive locations and proposed mitigation measures during:

a) Site establishment and construction. If 24 hour work is proposed, specific measures to address noise impact during night time hours will need to be specified in the EIS. In assessing night time activity sleep disturbance criteria apply. Where found to be necessary, determine the most appropriate noise mitigation measures and expected noise reduction including noise controls and management of impacts for construction noise. This may include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and scheduling of activities, etc;

b) Operational phases;

c) Transport including traffic noise generated by the proposal. For the assessment of existing and future traffic noise associated with the development, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process;

d) Other services;

e) Identify measures to be implemented to meet the environmental outcomes specified above including a description of noise suppression equipment fitted to equipment to minimise noise.

Note: Noise emission levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).

Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.

The Noise Impact Assessment Report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods or references used to determine noise source levels.

The Noise Impact Assessment Report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.

4.2 Determine and provide details on the existing ambient (including background) noise levels at noise sensitive locations in the area in accordance with the NSW EPA Industrial Noise Guidelines (January 2000).

4.3 Provide a map of the locality identifying any identified noise sensitive locations in relation to activities at the site.

4.4 Describe noise suppression equipment fitted to berth infrastructure to minimise noise.

4.5 Discuss the findings from the noise assessment including assessment of any cumulative noise impacts, and, where relevant noise criteria have not been met, recommend additional mitigation measures.

4.6 Provide details on number and times of truck movements including arrangements that do not impact local residents.

4.7 Identify monitoring programs to assess compliance with noise goals.

5. WASTE

Environmental outcomes

- The proposed facility must be designed, constructed, operated and maintained in accordance with the principles of the waste hierarchy and cleaner production.
- There must be no impact on the harbour from waste.

In addition:

- All liquid and non-liquid waste wastes associated with the proposed construction works must be assessed, classified and managed in accordance with the Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes (NSW EPA, 1999).

Issues to be addressed

5.1 Identify, characterise and provide details on the volume and management of all types of waste that would be generated at the premises from the construction and operation of the proposed development.

5.2 Outline cleaner production actions, including:
(a) measures to minimise waste (typically through addressing source reduction);
(b) proposals for use or recycling of by-products;
(c) proposed management methods of solid and liquid waste.

5.3 Provide methods for handling/transportation of any wastes generated at the premises.

5.4 Identify all wastes that cannot be reused including their associated management. In the assessments of these wastes reasons must be provided on why these wastes cannot be reused.

5.5 Clearly detail all environmental impacts associated with waste management.

6. ENVIRONMENTAL MANAGEMENT

The EIS must show that these objectives will be achieved and in particular, include information concerning the following:

- Operational procedures to manage air and noise emissions and any potential water discharges;
- Measures to assess any pollution control failures, including appropriate alarms to alert operators;
- Reporting procedures for exceedences to the DEC;
- Environmental training program;
- Complaint handling mechanisms;
- Strategies to achieve acceptable emissions in responding to the event of exceedences and emergency management plans; and
- Training programmes that will ensure that all operators on site including contractors are made aware of their environmental responsibilities and be properly trained or accredited in the installation and management of pollution control works.

7 CUMULATIVE IMPACTS

The EIS must assess the following issues in regard to cumulative impacts:

- The extent that the receiving environment is already stressed by existing development;
- Infrastructure requirements flowing from the proposal (for example, water and sewerage services, transport infrastructure upgrades);
- Any potential cumulative impacts and measures reasonably available to the proponent to contain such requirements or mitigate their impacts.

NSW NATIONAL PARKS AND WILDLIFE SERVICE

GENERAL GUIDELINES FOR IMPACT ASSESSMENT

The National Parks and Wildlife Service (NPWS) has an interest in the potential impacts of proposals on the following:

- areas of native vegetation;
- areas of potential value as habitat for native fauna;
- sites and places of Aboriginal cultural heritage, including areas of archaeological potential; and
- land dedicated under the *National Parks and Wildlife Act 1974* (*NP&W Act*).

If these attributes are anticipated to be present in your study area and / or likely to be impacted, it is recommended that assessments by a suitably qualified person be undertaken to determine the extent of impact. The NPWS suggests that the following basic details be included in the assessments:

- the qualifications and experience of the person undertaking the work; and
- a detailed description of survey methodology including survey design, sampling methods, weather conditions, time and duration of surveys and location of any survey sites and transect lines.

Specific issues that are recommended to be addressed by the assessments are detailed below.

General information

- description of the proposal and the way in which the environment will be modified;
- map(s) placing the proposal in a regional and local setting;
- applicability of Local Environmental Plans, Regional Environmental Plans and State Planning Policies to the proposal;
- information on the current and past land uses of the site and that of the surrounding area; and
- appropriately scaled maps which identify the location and extent of any areas of native vegetation and fauna habitat and Aboriginal cultural heritage value in relation to the area of proposed development.

Impacts

- prediction of the likely impact of the proposal on land dedicated under the *NP&W Act*;
- prediction of the likely impacts of the proposal on areas and items of natural significance, such as native vegetation and fauna habitat, and on Aboriginal heritage sites and areas of cultural significance. This should include consideration of any off-site impacts; and
- assessment of measures available to minimise the impact of the proposal on these attributes, including potential conservation options, alternative development options and monitoring programs, if appropriate.

Native flora, fauna and threatened species

The following information is considered necessary to assess the potential impact of a proposal:

- detailed description and mapping of all vegetation communities in the study area;
- identification of any vegetation communities or plant species which are of local, regional or state conservation significance (including threatened species, populations, ecological communities or critical habitat listed under the *Threatened Species Conservation (TSC) Act*). The criteria for establishing significance should be documented;
- description of known or expected fauna assemblages within the study area;
- identification of fauna habitat likely to be of local, regional or state significance (including habitat of threatened species, populations, ecological communities or critical habitat listed under the *TSC Act*);
- identification of habitat corridors and linkages between areas of remnant native vegetation which may assist faunal movement through the area and an assessment of the conservation significance of these; and
- prediction of the likely impact of the proposal on the above attributes (quantification of the extent of impact where practical).

In addition to these general requirements, there are specific requirements relating to the assessment of a proposal and its potential impact on threatened species, populations, ecological communities, their habitats and critical habitat.

The provisions of the *TSC Act* and related provisions of the *Environmental Planning & Assessment Act* should be considered when undertaking the assessment of a proposal. In addition to the *TSC Act* itself, further information on the provisions of the *TSC Act* may be obtained from the Department of Urban Affairs and Planning Circular No. A13 (12 December 1995). The NPWS has also produced Information Circulars on the *TSC Act* which may be obtained by contacting the NPWS Information Centre on (02) 9585 6333.

Concurrence provisions

Where a consent authority determines that a proposal is likely to have a significant effect on threatened species or their habitats, a species impact statement (SIS) must be prepared in accordance with the requirements of the Director-General of the National Parks and Wildlife Service. If, after considering the SIS, a consent authority intends to grant approval to a proposal that will have a significant effect on threatened species or their habitats then the concurrence of the NPWS is required. If the Minister for Urban Affairs and Planning is the consent authority the concurrence of the NPWS is not required, but consultation must occur with the Minister for the Environment before development consent is granted.

The process and timeframes for development applications that require concurrence are detailed in Division 2 of the *Environmental Planning and Assessment Regulation 1998*.

Aboriginal heritage

General issues

For the purposes of these guidelines Aboriginal heritage is considered to include "Aboriginal objects" and places of significance to Aboriginal communities.

Under the *NPW Act*, an 'Aboriginal object' is defined as any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that

comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains. Aboriginal objects are confined to physical evidence. Aboriginal objects are commonly referred to as Aboriginal sites.

An "Aboriginal place" is a place which has been declared so by the Minister for the Environment because he or she believes that the place is or was of special significance to Aboriginal culture. It may or may not contain physical Aboriginal objects.

It should also be noted that there are places in the landscape which have particular meaning for Aboriginal people, for example, spiritual areas or natural mythological areas. Although these areas are not protected under the *NPW Act*, unless they contain physical remains of Aboriginal occupation or have been declared an 'Aboriginal place', it is recommended that the potential impact of proposals on such places also be considered in the assessment process.

Assessment process

It is recommended that an assessment be conducted of the Aboriginal cultural values of the study area if the proposal involves disturbance to substantially unmodified ground surfaces. If the study area is considered to have archaeological potential or cultural significance then it is recommended that a survey and assessment be undertaken in accordance with NPWS guidelines. These guidelines are contained in the NPWS' publication "Aboriginal Cultural Heritage: Standards and Guidelines", which may be purchased by contacting the NPWS' Cultural Heritage Conservation Division on (02) 9585 6571.

Should any Aboriginal archaeological sites be present in the study area, you should consider the requirements of the *NP&W Act* with regard to Aboriginal objects. Under s90 of the *NP&W Act* it is an offence to knowingly damage or destroy Aboriginal objects without the prior permission of the Director-General of the NPWS.

In assessing Aboriginal heritage values, consideration should also be given to whether the study area is likely to contain places of cultural significance to the Aboriginal community. It should be noted that places of cultural significance to the Aboriginal community are not limited to archaeological sites. An assessment of cultural significance should involve consultation with community representatives and if necessary, documentary research to establish whether there are any places of traditional or historic significance to the Aboriginal community.

Integrated Development Assessment

Under recent amendments to the *EP&A Act*, a range of approvals and licences issued by various agencies have been integrated with the development approval process. Section 91 of the *Environmental Planning and Assessment Amendment Act 1997* lists the approvals of agencies which are included in the integrated development assessment (IDA) process.

This includes Section 90 approvals under the *NP&W Act* regarding consent to knowingly destroy, deface or damage or knowingly cause or permit the destruction or defacement of or damage to an Aboriginal object or Aboriginal place. Where an Aboriginal object or an Aboriginal place is known to occur on land prior to the lodgement of a development application, and the development proposal will damage, deface or destroy the Aboriginal object or Aboriginal place, thereby requiring a consent to destroy from the Director-General of the NPWS, the NPWS will become an approval body.

It should be noted that where an Aboriginal object or Aboriginal place is found to occur on land after a development application is lodged, separate NPWS approval will still be required under Section 90 of the *NP&W Act*.

The NPWS has prepared detailed guidelines to assist councils and applicants in the IDA process (copies available upon request). The guidelines outline the role of the NPWS in the IDA process and describe the information that needs to be submitted in an integrated development application. In summary, two types of information are required:

- Aboriginal cultural heritage assessment which involves consultation with the Aboriginal community groups. The NPWS is committed to working in partnership with the Aboriginal community groups in the management of Aboriginal sites and requires community assessment of any Aboriginal site management; and
- Archaeological assessment which involves the assessment of Aboriginal sites and their management based on archaeological heritage criteria.

Environmental impact statements

Where an environmental impact statement (EIS) is required to be prepared for an integrated development, the Director-General of the Department of Urban Affairs and Planning (DUAP) must request each approval body to provide their requirements in relation to the EIS. If the approval body does not provide those requirements within 14 days then the Director-General of DUAP must inform the applicant and the applicant must consult with the approval body to obtain its requirements for the EIS.

If an EIS is to be prepared for an integrated development that involves a Section 90 approval under the *NP&W Act*, the NPWS will be requested to provide its requirements for the EIS. In this situation, the NPWS requirements for the EIS are the same as for any IDA proposal that requires a Section 90 approval under the *NP&W Act*. These requirements are detailed in the attached guidelines.

Databases

The NPWS has two GIS databases which may provide information of use to you if you proceed to undertake further assessment. These are:

- Atlas listing of fauna and flora records in NSW;
- Aboriginal Heritage Information Management System.

The material from these databases is available upon written application and the receipt of the appropriate fee. If you are interested in obtaining access to the Atlas database, please contact the Data Licensing Officer, GIS Division, on (02) 9585-6694. Records from the Aboriginal Heritage Information Management System may be obtained upon written application to the Registrar, Cultural Heritage Conservation Division, on (02) 9585-6471.

Further Information

For further information please contact:

Manager, Conservation Planning Unit
Central Conservation Programs and Planning
Department of Environment and Conservation
PO Box 1967 Ph - (02) 9585 6674
Hurstville NSW 2220 Fax - (02) 9585 6442

ATTACHMENT B

EXTRACTS FROM EPA VICTORIA BEST PRACTICE ENVIRONMENTAL MANAGEMENT 'GUIDELINES FOR DREDGING' (OCTOBER 2001)

Stage 1 – Review of Existing Information and Preliminary Documentation of Sediment Contamination

(a) Review data from previous studies.

(b) Compile a synopsis of dredging-site history, including:

- Knowledge of past contamination and distribution and concentration of contaminants.
- Assessment of homogeneity of sediments.

(c) Identification of the contaminants of concern by reference to the site history.

Stage 2 – Data Generation

Sampling and Analysis Program

A sampling and analysis program should be prepared. The level of detail included in the program should match the scale of the dredging and the expected level of contamination. The program builds on the information obtained from Stage 1 and should include the following key elements.

(a) An outline of the dredging proposal, including the area(s) to be dredged, the depth(s) of dredging, the type(s) of sediment involved and the final amount of material (in cubic metres) that will require emplacement/management.

(b) Map(s) showing the dredge and emplacement/management area(s) and the proposed sampling locations, including the proposed length of cores and the depth intervals to be sub-sampled from cores.

(c) The contaminants to be measured and the sampling sites selected will depend on the previous history of the area, consideration of environmental factors (for example, currents) that may have affected the distribution of contaminants.

Sampling

Samples should be representative of vertical and horizontal variation and variability in the properties of the materials to be dredged.

Number of samples or cores required

The appropriate number of sampling sites depends on the variability of sediments and their pollutant content. Sediments from areas with a uniform geomorphology and distant from point sources of pollution require fewer samples than near-shore sediments with complex geomorphology and close to point sources of pollution. If initial tests indicate that contamination may be a concern, further samples may be required.

The area to be dredged may be divided into segments that are representative of that area. The size of segments depends on a number of factors, such as the expected distribution of contaminants. Contamination, may for example, be greater in fine-grained sediments that accumulate in turning basins or inside channel bends and may change with depth. The sampling design will be affected by the depth of cut of the dredge, sampling limitations and the results of pilot studies for large dredging projects. Sampling locations should be randomly distributed within each segment.

Sediment samples must be taken so that they are as representative as possible of the sediment that will be removed by the proposed dredging. For example, if sediment consists of several strata, a sample should be taken from each major stratum.

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Waterways

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May 10, 2004

Chris Wilson
Director Major Development Assessments
Department of Infrastructure, Planning and Natural Resources
GPO Box 3927
Sydney NSW 2001

(By Fax)

Dear Mr Wilson,

PORT KEMBLA PORT CORPORATION — PROPOSED UPGRADE OF EASTERN BASIN BERTH NO. 4, INNER HARBOUR, PORT KEMBLA

Thank you for inviting the Waterways Authority to provide comment in relation to the issues of concern for inclusion in the EIS.

The approval of the Waterways Authority is required for the proposed works as the Authority is the owner of the bed of Port Kembla Harbour. Accordingly, it is confirmed that provided development consent is not required for the proposed works, the Authority would be a determining authority for the purposes of Part 5 of the *Environmental Planning and Assessment Act* 1979 (EP&A Act).

Part 5 of the EP&A Act precludes the Authority from approving the proposed works without first considering to the fullest extent possible all matters affecting or likely to affect the environment.

The Authority would like the following issues addressed in the EIS:

1. The relevant statutory planning framework applying to the site.
2. Strategic context for the proposed works for Port Kembla and justification for the proposed extension in terms of current and future requirements.
3. Detailed description of the existing site conditions.
4. The PlanningNSW EIS guideline for Extractive Industries, Dredging and Other Extraction in Riparian and Coastal Areas be considered during the preparation of the EIS.
5. Detail the likely impacts on the marine environment, including but not limited to water quality.
6. Information relating to the environmental impacts and mitigative measures proposed, during both the construction and operation phase of the proposed berth upgrade, including but not limited to sediment and surface runoff, material storage/stockpile, means of access during construction and stormwater management, and the minimisation of dust generation and erosion.

7 Details of any environmental impacts and proposed mitigative measures in relation to works within 40 metres of Port Kembla Harbour.

8. Details of the reclamation including:

   (a) Existing and proposed levels,

   (b) Characteristics of material used and its suitability,

   (c) The submerged and foreshore land affected, and

   (d) Quantity of material to be deposited.

9. The impact of dredging on the marine environment on the Port Kembla Harbour. The following information should be included:

   (a) Justification for dredging,

   (b) Details in regard to the existing depth of water,

   (c) The proposed depth and extent of dredging,

   (d) The quantity and characteristics of material to be dredged, including the extent and soil sampling on which the analysis is based,

   (e) A comment on the likelihood of significant contaminants, including the acid sulphate potential,

   (f) The proposed method of dredging,

   (g) The proposed method of disposal of dredge material, including equipment size, location of any pipelines and dewatering operations,

   (h) A list of alternative options, and

   (i) The effect of dredging on Port Kembla Harbour.

10. That any sediment sampling undertaken is carried out in accordance with the EPA Guidelines for Consultants Reporting on Contaminated Sites, November 1997 and the National Disposal Guidelines for Dredged Material, May 2002.

11. Consideration of any potential effects on the surrounding area such as structural damage, stability, vibration, noise, etc. arising from the proposed dredging.

12. Plans and other drawings showing:

   (a) The location, extent and depth of the proposed dredging (all depths should be to relevant Port Datum),

   (b) The location of the toe and top of all battered or retained banks together with an average slope and extent of those banks,

   (c) Current depth contours and proposed depth contours of the areas to be affected,

   (d) Details of the proposed disposal areas, including current and proposed contours, proposed containment and dewatering structures as well as any temporary works,

   (e) Likely berth locations and wharf structures adjacent to the dredged area, and

   (f) Locations of marine and terrestrial vegetation, aquatic and animal habitats etc. likely to be affected (directly or indirectly) by the proposed works during construction and operation.

13. Details of the size of vessels anticipated including overall length (metres), beam (metres), Gross Registered Tonnes (GRT) and Deadweight Tonnes (DWT). Such details should include the maximum size vessel as well as the range of vessels.

14. An assessment of the potential effects on coastal processes/ hydrodynamics within Port Kembla Harbour.

15. A framework for an Environmental Management Plan for the activity including:

    (a) Staging of the proposal, site management and sediment and erosion control measures,

    (b) Location, type and scale of associated works such as temporary structures, stockpiles, access roads and related activities,

    (c) Outline the proposed treatment of these sites,

    (d) Measures for the mitigation of potential adverse impacts on the environment during and post construction, and

    (e) Contingency plans and emergency response plans.

16. Identify any proposed monitoring and maintenance programme for the dredged channel, bank stability etc during and post construction and short- and long-term.

17. Details of any environmental impacts and proposed mitigative measures in relation to works within 40 metres of Port Kembla Harbour.

18. Details of culminative impacts from the proposed works/activity.

Please also note the following approvals may be required from the Authority:

- The application be referred the Authority for assessment under the *Rivers and Foreshores Improvement Act, 1948*. The requirement of a Part 3A permit will be determined at this stage (during DA assessment).
- Section 13T of the *Maritime Services Act, 1935* (subject to development approval).

Should you wish to discuss the above please contact Maryanne Campanelli on telephone 9364 2017.

Yours faithfully,

Zenon Michniewicz
General Manager
Cc: Ingrid Illias, Sinclair Knight Merz

Department of Environment and Conservation (NSW)

Your reference :
Our reference : 282219A1:WOF12907:WD
Contact : William Dove, (02) 4224 4100

Port Kembla Port Corporation
(Attention: Chris Doyle, Andrew Dunn, Geoff Cornwall)
Cnr Darcy and Military Roads
PO Box 89
PORT KEMBLA NSW 2505

Dear Sir

PROPOSED PORT DEVELOPMENT
CAPITAL AND MAINTENANCE DREDGING MEETING OF 25 MAY 2005

We refer to the above meeting when staff from Port Kembla Port Corporation briefed the Department of Environment and Conservation on future capital and maintenance dredging in Port Kembla.

This presentation focussed on proposed capital works, and capital and maintenance dredging in Port Kembla Harbour, and the management of dredge spoil. A summary of the issues raised is included as an attachment to this letter.

A critical issue facing Port Kembla Port Corporation at present is the urgent need to carry out some limited maintenance dredging.

Early in 2005 you advised the Department that maintenance dredging was not a critical issue in Port Kembla due to low sediment inflows to the harbour. This situation changed when the Port Kembla Harbour Master reduced the declared depths at the berths in the Port. You have advised that material must be removed from the berthing boxes to return them to their previous declared depths. Current volumes are estimated at between 20,000 to 100,000 m3. You have indicated that you are carrying out additional work to more accurately define the amount of material that needs to be moved in the short term to maintain current port operations.

As discussed, BlueScope Steel (BSL) can dredge their berthing boxes at any time under the terms of Environment Protection Licence (EPL) No 6092 for the Steelworks as specified in Conditions O18 and O19. There is also a Pollution Reduction Program on the BSL EPL in relation to dredging activities. We do not believe that there are any other approvals or licences currently in place for maintenance dredging at any of the other berths.

"Dredging Works" are defined under Schedule 1 of the Protection of the Environment Operations Act, 1997 as *"works in which materials of more than 30,000 cubic metres per year are obtained from the bed, banks or foreshores of any waters"* and would require an EPL. Paragraph 19 *"Extractive Industries"* of Schedule 3 of the Environment Planning and Assessment Regulation, 2000 (attached) specifies that greater than 30,000 cubic metres of dredge material obtained per year requires a Development Consent. In relation to the planning process for dredging works advice would need to be sought from Department of Infrastructure, Planning, and Natural Resources (DIPNR) and Council to determine whether approval is required under Part 4 or 5 of the Environmental Planning and Assessment Act 1979.

PO Box 513 Wollongong East NSW 2520 Australia
Level 3 NSW State Government Offices 84 Crown Street
Wollongong NSW 2500
Telephone: 61 2 4224 4100
Facsimile: 61 2 4228 4110
ABN 30 841 387 271
www.environment.nsw.gov.au

We also refer you to the former NSW Department of Urban Affairs and Planning EIS Guidelines titled "Extractive Industries Dredging and Other Extraction in Riparian and Coastal Areas", a copy of which is attached

We strongly agree with you and would like to see all dredging in Port Kembla, both maintenance and capital, considered and assessed strategically so that the best environmental and economic returns can be realised. A catalyst for this process may well be the proposed developments you described to us at the Multi Purpose Berth and the Eastern Basin.

The end point we would like to arrive at in this process would be the granting of a dredging EPL for the harbour, so that maintenance dredging could be carried out on a needs basis. There are a number of fundamental issues that would need to be resolved with this approach, including who would hold the Licence, linkages to any capital dredging proposals and dredge spoil management. If the preferred option for dredge spoil management was emplacement in the outer harbour, we believe that this would need to be clearly linked to future plans for the outer harbour reclamation, thereby effectively reusing the dredge spoil rather than just using the outer harbour as a spoil dump site.

We adopted this position in terms of the recent Multi Purpose Berth extension/dredging. While the linkages between using the outer harbour for disposal of dredge spoil and the proposed outer harbour reclamation are being discussed, the links are yet to be established. We will work through these issues with you.

Port Kembla Port Corporation must also manage the immediate problem of the reduced declared depths in berthing boxes and other areas of the harbour. You have advised us that you are carrying out additional investigations to clarify the volume of material that has to be removed in the short term, as well as considering short term options for removing this material. You have stated that you are investigating options such as sweeping of material and the use of ship propeller wash to blow the material away from critical areas. We would like to meet with you and discuss the options you identify when you have refined them further so that we can understand the best practise pollution controls for the different techniques.

Should you require any further information please contact the officer listed above.

Yours sincerely

TJones 22/6/05

TREVOR JONES
Manager Illawarra
Environment Protection and Regulation Division
Department of Environment and Conservation

All;

(N:\wd2005\WDF12907 Port Kembla Corporation dredging.doc)

ATTACHMENT 1

Capital Dredging
Currently short to medium term capital projects include:

- Multi Purpose Berth 3 (MPB3) development. Construction proposed to start in the first quarter of 2006. Will include dredging for the construction of MPB3, and also dredging required for the construction of the Eastern Basin (EB);
- EB development. Construction proposed to start in the first quarter of 2008.

A longer term capital project is the proposed 23 ha Outer Harbour development. Port Kembla Port Corporation is working with BlueScope Steel (BSL) on this issue, as industrial by-products from BSL could be used in this reclamation proposal. You advised that you hope to reach an agreement with BSL on a way forward by the end of 2005.

In terms of dredge spoil you have advised that maintenance and capital dredge spoil can be divided into three categories, called 'A', 'B' and 'C'.

Material 'A' is described as being uncontaminated clays and rock. You have advised us that you propose to dispose of this material offshore and will be making a licence application to the federal Department of Environment and Heritage (DEH) in June 2005. DEH will refer this application to us for our input to the approval process. You also advised that you have undertaken consultation with NSW Fisheries, and the commercial fishing industry in the selection of the spoil dump ground, called 'C1". You have also discussed this proposal with the local community via the Port Kembla Harbour Environmental Group. We believe that while consultation with the local community is not required as part of this 'approval' process, it will be very important to ensure the local community is informed of this proposal. This could be carried out via the Port Kembla Pollution meeting, held on the first Saturday of each month.

Material 'B' and 'C' is described as 'slag and intertidal clays' and 'contaminated upper layer' respectively. This material, some 250,000 m3 in volume from the capital dredging program is not suitable for off shore disposal.

Maintenance Dredging.
Early in 2005 you advised the Department that maintenance dredging was not a critical issue. This situation has changed, with a reduction in the declared depths at the Port Kembla berths being made by the Port Kembla Harbour Master. Current volumes are estimated at 20,000 to 100,000 m3 required at most berths and other areas in the harbour.

Any material dredged during maintenance dredging will not be suitable for offshore disposal and is categorised as Material 'C'. You also indicated that this material has questionable geotechnical properties for reclamation work.

Currently, BSL can carry out maintenance dredging at their berths under the terms of their Environment Protection Licence (EPL) No 6092 for their premises. This involves temporary disposal of the dredge spoil at 21 area.

There are no other current approvals or licences for any other dredging at the remaining berths in Port Kembla. Under Schedule 1 of the Protection Of the Environment Operations Act, 1997 Dredging works are defined as *'works in which materials of more than 30,000 m3 per year are obtained from the beds, banks or foreshores of any waters'* and such works would require an EPL. Paragraph 19 *"Extractive Industries"* of Schedule 3 of the Environment Planning and Assessment Regulation, 2000 (attached) specifies that greater than 30,000 cubic metres of dredge material obtained per year requires a Development Consent.

We also discussed State Environment Planning Policy No 35 "Maintenance Dredging of Tidal Waterways" (copy attached). We both agreed that the preferred approach would be to consider and assess dredging proposals strategically under the planning legislation described above.

Dredge Spoil Management

You have identified a number of options for the management of dredge spoil that can not be disposed offshore. They are: Land Disposal (two sites, balloon loop and outer harbour) and within harbour disposal as part of the future outer harbour reclamation project. These options are required for the contaminated material produced as part of the capital and maintenance dredging programs, called material 'B' and 'C'.

In terms of these three sites the following issues were discussed:

1) Balloon Loop, land based disposal:
- You do not want to sterilise industrial land close to the port. This would only be a temporary solution at best.
- The issue of land ownership.
- Would need large dewatering ponds. DEC would need to assess return water management and quality/quantity.
- Possible odour issues
- Final management or disposal or treatment of dredge spoil to be determined.

2) Outer Harbour, land based disposal:
- Short term leases exist in area, for example, Sydney Water Corporation.
- Only a temporary solution at best.
- Dredge spoil can not be pumped to this location, during MPB3 and EB development.
- Visual issues with large spoil stockpile close to area used by public.
- Possible odour issues.
- Final management or disposal or treatment of dredge spoil to be determined

3) Outer Harbour, water based disposal as part of future outer harbour reclamation, possible deep water bund or surface bund.
- The Department would consider either surface or deep water bund, intuitively we suspect surface bund would have better environmental performance, but would lack operational convenience of deep water bund. Port Kembla Port Corporation would need to carefully assess environmental impacts from both techniques, and we would consider them on their merits.
- The Department would only favour this disposal option if it were positively linked to the future reclamation works proposed for the outer harbour. This puts the emphasis on the reuse of the dredge spoil rather than the disposal of the material in the outer harbour.

Results of Authority Consultation for MPB3 and EB4 development

Authority	Issue Raised	Location in REF
NSW Department of Planning	The NSW Department of Planning requires the assessment of the following issues:	
	Water quality impacts	
	• the design and operation of the project to meet the ANZECC (*2000*) water quality criteria; and	Section 4.3.1
	• the project must address concentrations of compounds that may be toxic to aquatic ecology, bio-accumulative, or that generate unacceptable odours, colours, turbidity, deposits or other deleterious water quality effects	Section 4.3.1
	Spoil Management	
	• estimates of likely spoil generation, including identification of known or potential contamination issues, and options for spoil management, reuse and/or disposal.	Sections 3 and 4.1
	General Environmental Risk Analysis	
	• environmental risk analysis to identify potential environmental impacts associated with the project, proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures; and,	Sections 4 and 5
	• impact assessment of any additional key environmental impacts identified through the environmental risk analysis.	
Department of Environment and Conservation (*DEC*)	The DEC requires the consideration of the following issues:	
	• Environmental Protection Licence (*EPL*) from the DEC.	Section 2.2.2
	Aboriginal heritage and threatened species	
	• Assessment to determine the habitat value of the site for native species	Section 4.2
	Water quality and dredging	
	• Surface and groundwater hydrological catchments including the existing water environment;	Section 4.3
	• sediment sampling of the dredging and disposal sites;	Section 4.1
	• adoption and description of best practice measures for dredging activities;	Sections 3.3 and 3.4
	• dredging techniques;	Sections 3.3 and 3.4
	• installation of silt curtains around the proposed dredging site;	Sections 3.4 and 4.3.1
	• expected quantity of material to be dredged;	Section 3.2.2
	• pollution controls;	Section 3.4
	• impacts on surrounding aquatic environment;	Section 4.2
	• techniques to deal with any acid sulfate soils encountered;	Section 4.1.6
	• expected marine impacts; and,	Section 4
	• proposed water quality monitoring to measure the performance of the controls.	Section 4.3.1
	Emplacement/management of dredge spoil	
	• Assessment process and any conditions of approval from Environment Australia; and,	Appendix A
	• measures to ensure compliance with the conditions.	Appendix A
	• expected quantity of material to be emplaced;	Section 3.2.2
	• areal extent of the emplacement site and expected depth of the emplacement;	Section 3.2.1; Figures 3.1 and 3.2
	• pollution controls during the emplacement operation;	Section 3.4 and the issue will be further discussed in the "Dredge Material Placement Management Plan"

	• the way emplacement will be managed to prevent entrainment of sediments due to shipping movements, tides and wave action;	Section 4.5 and the issue will be further discussed in the "Dredge Material Placement Management Plan"
	• measure to ensure the long term sustainability and stability of the area; and.	Section 4
	• measures to ensure the sediments are physically and chemically stable for the purpose of emplacement.	Section 4.1
	Noise	
	• Existing ambient noise levels at noise sensitive locations;	Section 4.4.1
	• noise impact from the proposed activity;	Section 4.4.3
	• proposed mitigation measures during site establishment, dredging, disposal and transport;	not required as no adverse impacts anticipated
	• identify all noise sources/activities at the most sensitive locations;	Section 4.4.1
	• discuss findings from the noise assessment,	Section 4.4
	• provide details on number and times of truck movements; and	no significant truck movement is expected
	• monitoring programs to assess compliance with noise goals.	no noise impacts are anticipated
	Environmental management	
	• operational procedures noise emissions and any potential water discharges;	these issues will be discussed in the Environmental Management Plan (EMP)
	• measures to assess any pollution control failures;	
	• reporting procedures for exceedences to DEC;	
	• environmental training program;	
	• complaint handling mechanisms;	
	• strategies to achieve acceptable emissions in responding to event of exceedences and emergency management plans; and,	
	• training programmes for all operators on site including contractors.	
	Air	
	• The potential for the sediment to generate odour can form the basis of the odour assessment	Section 4.7
	• Identify appropriate odour mitigation management strategies if require.	Section 4.7
NSW Fisheries	The NSW Fisheries requires the consideration of the following issues:	
	• Nature, extent and timing of the works for both dredging and disposal;	Section 3
	• Machinery used;	Section 3.4
	• Measure to reduce environmental impact;	Section 3.4 and this issue will be further discussed in the EMP
	• Physical and chemical properties of the material;	Section 4.1
	• Risk related to the disposal of the material;	Section 4.1
	• Location of the disposal area;	Sections 3.1.2 and 3.4.3, and Figures 3.3 and 3.4
	• Impacts on commercial and recreational fishing in the disposal area; and,	no significant impacts on commercial and recreational fishing is expected
	• Aquatic habitats and marine vegetation within and adjacent to the area.	Section 4.2
	• Assess the risk of spreading introduced plant and animal species to areas where they do not currently occur and	Section 4.2.3

	outline the options for minimising the risk;	
	• consideration of the impacts upon threatened fish species under relevant Act; and,	Section 4.2.3
NSW National Parks and Wildlife Service (*NPWS*)	The NPWS recommends the consideration of the following issues:	
	General Information	
	• description of the proposal and the way in which the environment will be modified;	Sections 3 and 4
	• map(s) placing proposal in a regional and local setting;	Figures 1.1, 3.1 and 3.2
	• applicability of Local Environmental Plans, Regional Environmental Plans and State Planning Policies to the proposal;	Section 2
	• current and past land uses of the site and that of the surrounding area;	Section 3.1.1
	• appropriately scaled maps which identify the location and extent of any areas of native vegetation and fauna habitat and Aboriginal cultural heritage value;	no such area identified
	Impacts	
	• likely impact of the proposal on land dedicated under the NP&W Act;	no such land dedicated
	• likely impacts of the proposal on areas and items of natural and cultural significance and on heritage sites.,	Section 4.8
	• assessment of measures available to minimise the impact of the proposal on these attributes;	Section 4.2 and 4.8
	Native flora, fauna and threatened species	
	• detailed description and mapping of all vegetation communities in the study area;	Section 4.2
	• identification of any vegetation communities or plant species which are of local, regional or state conservation significance;	no such species identified in the area
	• description of known or expected fauna assemblages within the study area;	Section 4.2
	• identification of fauna habitat which are of local, regional or state conservation significance;	no such habitat identified in the area
	• identification of habitat corridors and linkages between areas of remnant native vegetation	no such habitat corridors identified in the area
	• prediction of the likely impact of the proposal on the above attributes	Section 4.2.3
Waterways Authority	The Waterways Authority requires the consideration of the following issues:	
	• The relevant statutory planning framework applying to the site.	Section 2
	• A full description of works proposed	Section 3
	• Details of the reclamation including: (a) existing and proposed levels; (b) characteristics of material used and its suitability; (c) the submerged and foreshore land affected; and. (d) quantity of material to be deposited.	Sections 3.1.2 and 3.4.3, and Figures 3.3 and 3.4
	• The impact of dredging on the marine environment on the Port Kembla Harbour.	Section 4
	• Information of the dredging including: (a) justification for dredging;	Section 1.2
	(b) details in regard to the existing depth of water;	Section 3.1.2
	(c) the proposed depth and extent of dredging;	Section 3.2.1 and Figures 3.1 and 3.2
	(d) the quantity and characteristics of material to be dredged, including the extent and soil sampling on which the analysis is based;	Sections 3.2.2 and 4.1
	(e) a comment on the likelihood of significant	Section 4.1

	contaminants, including the acid sulphate potential; (f) the proposed method of dredging (g) the proposed method of disposal of dredge material, including equipment size, location of any pipelines and dewatering operations; (h) a list of alternative options; (i) the effect of dredging on Port Kembla Harbour; and, (j) any likely interference with existing port uses.	Sections 3.3 and 3.4.1 Section 3.4.3 Section 3.1.2 Section 4 Section 4.6
	• Any sediment sampling is undertaken in accordance with the National Disposal Guidelines for Dredged Material, May 2002.	Section 4.1
	• Plans and other drawings showing: (a) the location, extent and depth of the proposed dredging *(all depths should be to relevant Port Datum)*; (b) the location of the toe and top of all battered or retained banks together with an average slope and extent of those banks; (c) current depth contours and proposed depth contours of the areas to be affected; (d) details of the proposed disposal areas, including current and proposed contours, proposed; containment and dewatering structures as well as any temporary works; (e) likely berth locations and wharf structures adjacent to the dredged area, and; (f) locations of marine and terrestrial vegetation, aquatic and animal habitats etc. likely to be affected (*directly* or *indirectly*) by the proposed works during construction and operation.	Section 3.2.1 and Figures 3.1 and 3.2 Figures 3.3 and 3.4 Section 3.1.1 Section 4.2
	• Details of the size of vessels anticipated including overall length *(metres)*, beam (*metres*), Gross Registered Tonnes (*GRT*) and Deadweight Tonnes (*DWT*). (*Include the maximum size vessels as well as the range of vessels*)	the vessel is ultimately selected by the contractor
	• An assessment of the potential effects on coastal processes/hydrodynamics within Port Kembla Harbour.	Section 4.5
	• Consideration of any potential effects on the surround area such as structural damage, vibration, noise etc. arising from the proposed dredging	Section 4.4
	• A framework for an Environmental Management Plan for the activity including: (a) Staging of the proposal, site management and sediment and erosion control measures; (b) Location, type and scale of associated works such as temporary structures, stockpiles, access roads and related activities. Outline the proposed treatment of these sites; (c) Measures for the mitigation of potential adverse impacts on the environment during and post construction; and. (d) contingency plans and emergency response plans. • Identify any proposed monitoring and maintenance programme for the dredged channel, bank stability etc during and post construction and short- and long-term • Details of any environmental impacts and proposed mitigative measures in relation to works within 40 metres of Port Kembla Harbour	Section 3.4.3 Section 4
	• Details of cumulative impacts from the proposed	Section 4.1.3

	works/activity	
	• REF shall be prepared consistent with clause 228 of the EP&A Regulation 1994 and the DIPNR document titled "Is an EIS required? Best Practice Guidelines for Part 5 of the EP&A Act." • consideration of the DIPNR "EIS guideline for Extractive Industries, Dredging and Other Extractor in Riparian and Coastal Areas"	Section 4.10
RTA	The RTA requested the consideration of the following issues in an REF: • identify vehicle movements expected dredging/disposal as well as proposed vehicle routes; • expected traffic generation from the increased capacity on the road network; and, • details of any road safety and network efficiency issues.	No significant truck movements are expected