



Ports Corporation of Queensland

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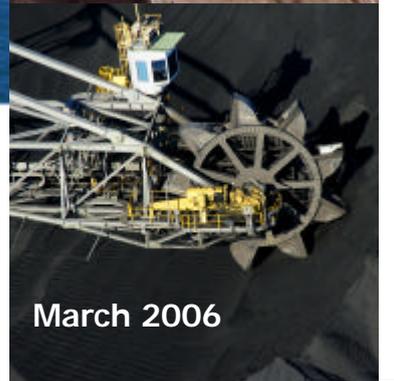
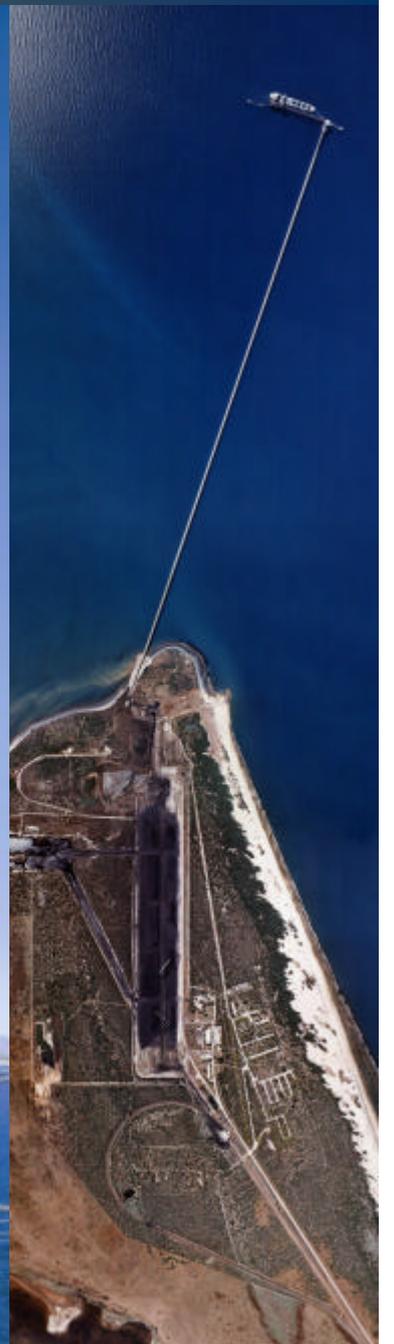
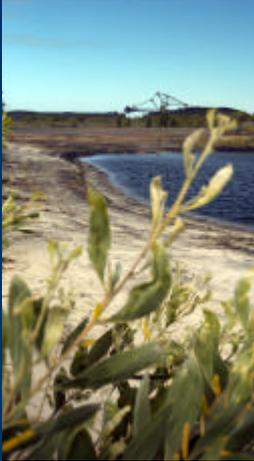


PORT OF ABBOT POINT

Abbot Point Coal Terminal

Stage 3 Expansion

Environmental Impact Statement



Executive Summary

March 2006

EXECUTIVE SUMMARY

The Stage 3 Expansion Project– An Overview

Ports Corporation of Queensland (PCQ) is responsible for managing thirteen ports located throughout Queensland, including the Port of Abbot Point, located approximately 25 km to the north of Bowen on the Central Queensland coast. PCQ's responsibilities include the development of infrastructure and the maintenance of navigable waters at the Port. PCQ owns the Abbot Point Coal Terminal (APCT) at the port and the terminal is operated by an independent operator, Abbot Point Bulkcoal Pty Ltd, under contract to PCQ.

Due to increasing demand for export coal from Queensland coalfields, PCQ is proposing to increase the handling and export capacity of the APCT to 50 million tonnes per annum (Mtpa). The existing capacity of the terminal is around 15 Mtpa, however in December 2005, PCQ received planning and environmental approvals to expand the terminal to 25 Mtpa with a Stage 2 Expansion that will involve increasing the stockyard capacity, a new stockyard stacker reclaimer and speeding up the existing conveyors. Subject to receipt of all approvals, construction of the Stage 2 Expansion is expected to start in the first half of 2006 and to be completed in 2007.

The proposed Stage 3 Expansion will increase the capacity from 25 Mtpa to 50 Mtpa in stages. It is expected that works on the Stage 3 construction will commence as early as 2007, potentially following on from the Stage 2 works, with the first phase (Stage 3A) potentially completed in 2009. If required, a second phase (Stage 3B) could also be completed by 2009, but is more likely to be delayed by at least a year to match rail upgrades and demand for capacity.

The Stage 3 Expansion will complement the Stage 2 Expansion, but is much larger in scope and involves off-shore works. This Environmental Impact Statement (EIS) has been prepared to address the Stage 3 Expansion project. The EIS will not study the impacts of the Stage 2 Expansion which has already been separately assessed and has received planning and environmental approvals. The EIS will cover the impacts associated with the construction of the Stage 3 Expansion, as well as the potential impacts of operation of the terminal for the full capacity of 50 Mtpa, as the net result of both expansions.

Key components of the proposed Stage 3 Expansion are as follows:

- construction of a second rail loop, fitting out of the existing second dump station, together with installation of a second inloading conveyor for transferring the coal to the stockyard;
- installation of a new stockyard bund and two new stockpile rows;
- installation of up to three new stacker reclaimers (or similar yard machines);
- installation of a second outloading stream to the offshore berth using the existing jetty structure;
- installation of a second berth to the east of the existing berth and a second shiploader on the new berth;
- dredging associated with the second berth to facilitate access by ocean-going vessels; and
- disposal of the dredged material at sea within an approved spoil disposal ground.

Spoil volume estimates associated with dredging of the second berth pocket are estimated to be around 100,000m³, on an *in situ* basis.

The Stage 3 Expansion is estimated to cost around \$430 million (in 2004 dollars). The cost will need to be revised upwards to account for the year construction commences.

The Stage 3 Expansion is expected to be progressed in two stages to provide a staged increase in terminal capacity to better match available terminal throughput with demand from the mines delivering coal to the terminal. The first

stage (Stage 3A) would involve dredging of the berth pocket, installation of the second off-shore berth and shiploader, the second rail loop, dump station fit-out and second inloading conveyor and installation of a stacker reclaimer (the site's fourth) on the Stage 2 stockyard. This stage would achieve a capacity of around 30 Mtpa. The remainder of the works would occur in Stage 3B to provide the 50 Mtpa capacity.

One of the key drivers for the Stage 3 Expansion of Abbot Point is the implementation of the “northern missing link” i.e. around 70 kilometres of proposed new rail line between the Goonyella and Newlands coal mines. The Stage 3 Expansion of the Abbot Point Coal Terminal is unlikely to proceed without a government commitment to proceed with the missing link. This is currently being reviewed by Queensland Rail (QR) under a separate assessment and approval process. All aspects of the rail development up to the APCT boundary are being addressed separately by QR. PCQ is working closely with QR to progress the two projects in parallel to achieve common completion times.

EIS Methodology and Legislative Triggers

The proposed Stage 3 Expansion project has been determined to be a ‘significant project’ under the *State Development and Public Works Organisation Act 1971*. Consequently an EIS is required to be prepared for the project addressing Terms of Reference (ToR) prepared by the Coordinator-General. These ToR have been prepared after a period of public display of draft ToR and comment and input from State Government Agencies. The EIS aims to provide comprehensive, relevant and factual details of the project, its potential environmental impacts, and the management strategies proposed to ensure that any impacts are acceptable.

In accordance with the ToR, the EIS is to:

- describe the proposed development and associated infrastructure;
- describe and assess the environmental, cultural, social and economic impacts of the project; and
- identify proposed management strategies in an Environmental Management Plan (EMP) designed to reduce and control potential impacts in an acceptable manner.

The Stage 3 project has been referred to the Commonwealth Department of Environment and Heritage (DEH) under the provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act). The DEH decided that the project did not constitute a “controlled action” and, accordingly, this EIS has been prepared to address the State environmental assessment process only.

Consultation Process

Community consultation is an important part of the environmental assessment process. Prior to the release of this EIS, PCQ has held numerous meetings with stakeholders and the general community to keep them fully informed on the nature of the proposed expansion. Briefings on the project have been provided to relevant government agencies. Further discussions and meetings will be held as required with relevant government and non-government agencies, stakeholders and members of the general public during the public display of this EIS.

Project Need, Benefits and Alternatives

There has been a strong growth in demand for coal exports from Australia due to the industrial growth of China and India. Most Australian ports exporting coal are currently undergoing or are proposing to undergo an expansion in terminal capacity to meet this increased demand. The Port of Abbot Point is the most northerly coal exporting port in Australia and is well placed to provide the export capacity required.

The coal export facilities at the Port of Hay Point to the south are expected to be capacity constrained in the future due to the constraint imposed by the Goonyella to Hay Point rail system. Substantial capital expenditure is required to lift the Goonyella rail system above this capacity to the extent that developing the northern missing link is a lower

cost option. QR is currently seeking planning approvals for the northern missing link project, which are progressing in parallel to the approvals for the Stage 3 Expansion of the APCT.

The installation of the northern missing link is expected to provide the impetus to develop a number of existing coal deposits between North Goonyella and Collinsville that are not currently being mined. A number of existing mines in the northern part of the Bowen Basin coalfield region that ship through the Port of Hay Point have also indicated an interest in shipping part of their increased production through the APCT if the missing rail link was completed, to reduce reliance on shipping coal through a single port.

The following economic benefits from the ongoing operation of the Stage 3 Expansion are predicted:

- Additional export revenue of \$1.5 billion to the Queensland and Australian economy;
- \$114 million in value added per year to the Queensland economy;
- \$19 million in additional household income per year to the Queensland economy, but flowing mainly to the Bowen region;
- Up to 390 additional full-time equivalent direct and in-direct jobs for every year that the additional exports are made.

In addition, significant employment opportunities will be generated over the three year construction of the terminal, which is expected to have a peak construction workforce of up to 950 people.

Existing Operations

The existing terminal was commissioned in early 1984 and has been operating continuously since that time without any significant environmental incidents and no environmental complaints have been received from the general public. In 2004/05, the APCT exported 12.8 million tonnes of coal with 141 ship visits in the year. The APCT is owned by the Ports Corporation of Queensland, but is operated by Abbot Point Bulkcoal Pty Ltd (APB), under an operating and maintenance contract with PCQ.

The terminal operation can be broken into the following key components, ie:

- Inloading;
- Stockyard storage;
- Yard machines to stack and reclaim coal to and from the stockpiles;
- Outloading to the off-shore berth;
- Shiploading.

Trains transport coal by bottom dumping wagons to a rail in-loading facility at the APCT on a balloon rail loop. Once unloaded, the coal is then conveyed from the unloading facility to the stockpile area and stacked by one of two site stacker / reclaimers. There are two primary stockpile areas capable of holding 500,000 tonnes of “live” coal and up to 750,000 tonnes of “dead” coal. Live coal is coal that is within the reach of the stacker / reclaimer while dead coal requires a dozer to push it into place for subsequent reclaiming.

During shiploading operations, coal is conveyed to a 1,350 tonne surge bin prior to being conveyed along the 2.8 kilometre trestle to the wharf where it is then loaded into ships via the shiploading unit. The Stage 2 Expansion works comprise the construction of two additional coal stockpile rows and an additional stacker/reclaimer. There will be no off-shore works associated with the Stage 2 Expansion.

Environmental and planning approvals have been received for the Stage 2 Expansion to expand the capacity of the existing terminal up to 25 Mtpa and construction is expected to start in the first half of 2006.



Existing Stockyard at Abbot Point



View of Jetty and Wharf from Bald Hill



Shiploading at Wharf

Project Details- Stage 3 Expansion

Proposed Stage 3 On-shore Works

Most elements of the terminal require expansion to achieve a capacity of 50 Mtpa. In terms of inloading and outloading, this effectively amounts to duplication of the existing facilities. In terms of the stockyard, this amounts to the addition of a third bund with two new stockpile rows and up to three additional yard machines.

Commencing with the inloading, duplication of the rail dump station will be required for the planned 50 Mtpa capacity. The current dump station structure has been constructed with duplication expected (as have many other existing facilities) and only fit-out of new hoppers, feeders and second inloading conveyors will be required. In addition to this, there will need to be the establishment of an additional rail loop within the existing loop with an approximate additional track length of 3.5km.

The stockyard area will be expanded to establish two new stockpile rows and allow for initially two, but ultimately three, new stacker/reclaimers (S/R's) and the associated conveyor systems. These systems will link in with and be parallel to the existing configuration to the north of the stockyards. The S/R's will be similar in size to the existing equipment. The new stockyard area is within the existing terminal boundary, but will require clearing of some 16 ha of vegetation (over and above that cleared for the establishment of the Stage 2 stockyard expansion).

Filling of the Stage 3 stockyard area will also be required with fill material derived mainly from the cut operation to part of the new stockyard area on the side slopes of Bald Hill and from other quarries within the PCQ land holdings. Associated with this will be the establishment of a new perimeter bund to the west of the Stage 3 stockyard which will link in with the drainage channel realigned as part of the Stage 2 expansion works. This perimeter bund will be essentially a broad shallow drainage path similar to the existing main drainage channel.

The expansion of the outloading system will involve construction of a second surge bin and outloading conveyor to connect to the off-shore facilities.

Proposed Stage 3 Off-shore Works including Dredging and Spoil Disposal

The new outloading conveyor will be constructed on the existing jetty headstocks and feed a new wharf conveyor. No new piling is required along the jetty as the original jetty was designed to accommodate future duplication of the outloading arrangements. A second shiploader will be installed on a new piled wharf structure to the south-east of the existing transfer tower platform. The ship loader and wharf will generally be of similar configuration to the existing facilities. Off-shore construction will also include the re-establishment of the service jetty established during the initial port construction program. This jetty will be used for the handling of equipment for the off-shore construction works.

The establishment of the new off-shore wharf will necessitate the dredging of seabed material to form an extension to the existing berth pocket. Material volumes associated with the dredging of this second berth pocket are estimated to be approximately 100,000 m³. Dredging is likely to comprise a one-off capital dredging program only and there is no currently identified requirement for disposal of material as part of a maintenance dredging program in the foreseeable future. Dredging is expected to take around two weeks and involve the use of a cutter-suction dredge. The proposed location for off-shore disposal will be at the spoil ground used for the original capital dredging program in 1981/2. This spoil ground is located approximately 4 km to the north west of the existing berth and in a water depth of approximately 19 m. This spoil ground is located within the Great Barrier Reef Marine Park boundary, while the new wharf is located outside the Marine Park.

Construction Issues

The construction of Stage 3 will necessitate the use of significant volumes of construction material and equipment sourced from a range of local, regional, national and international sources. Waste generated during construction will be handled in accordance with best practice principles including recycling where appropriate. Two construction yards and office sites will be established on site. The location of one yard in the south-west corner of the site will be a continuation of the yard/office established for the Stage 2 Expansion. A second yard/office will be established in the north-east corner for Stage 3 for the purposes of construction of the outloading and off-shore works. Both locations will be serviced by sewage treatment plants.

Due to the isolation of the site from residential areas, there is expected to be minimal disruption to existing land uses in the area.

Employment

The total regional construction workforce for the Stage 3 Expansion is expected to peak at up to 950 personnel, with up to 600 personnel likely to be engaged in site construction at any one point in time. The construction period over Stage 3A and 3B is expected to be around three years.

Personnel will be sourced where possible from the local area (i.e. Bowen and immediate environs) with the remainder sourced from Australia-wide. Because of the specialised nature of much of the work, a significant proportion of the workforce will necessarily come from other regions and thus will require accommodation for the duration of this employment on the project.

The operational workforce will increase from the current 48 personnel to nearly 100 personnel (including contractors) by the time the full capacity of the Stage 3 Expansion is reached.

As noted above in the project benefits, economic studies carried out on the existing port shows the operation of the port has significant employment flow-on benefits. Direct and indirect employment benefits from operation of the port at 50 Mtpa (compared to the proposed Stage 2 output) could provide a total of up to 390 additional full-time equivalent jobs.

Infrastructure Requirements

Some upgrading of the road access to the APCT will be required including modifications to the intersection and rail crossing at the existing junction of the port access road with the Bruce Highway. The length of turning lanes (left and right) off the Bruce Highway is being increased as part of the Stage 2 Expansion project. The impact of increased rail use will be addressed in the separate studies being undertaken jointly by QR and PCQ. Upgrading of on-site sewage treatment, water supply and telecommunications infrastructure will also be required. There will be increased demands for operational water from the existing groundwater source of the Splitters Creek borefield. The proposed 'Water for Bowen Pipeline' has the potential to provide a supplementary external water supply to the site if it becomes available.

Bowen Accommodation Camp

A significant number of construction workers will need to be sourced from outside the Bowen area due to the specialised nature of some of the work. Accommodation for these personnel, possibly along with their families, will be required for the duration of their engagement in the construction program. It is expected that up to 540 workers, plus their dependants (up to 200), will need temporary accommodation in the Bowen area during the construction program. Existing accommodation, particularly on a seasonal basis, could satisfy only a minor proportion of this need. It is consequently proposed to establish an accommodation camp on the existing showgrounds site at Mt Nutt Road in Bowen. This will include the upgrading of existing facilities at the site, particularly sewerage infrastructure,

that will be of benefit for future showground operations. This camp is expected to operate for around three years during the construction phases, after which the area will revert to its previous use, but with improvements made to it. Siting of the accommodation camp in Bowen will increase the direct benefits flowing from construction works to the Bowen economy.

Operating Procedures

General operating procedures to be employed with the expanded operations are expected to be similar to the current practices. Operating times will remain as a 24 hour 7 day week. The existing environmental management procedures employed at the site by APB will, in general terms, be continued following implementation of the Stage 3 expansion. New environmental controls are being incorporated into new equipment where appropriate to ensure Best Practice standards.

At present, there are a range of ships visiting the port with the largest being capesize vessels with a capacity of up to 200,000 tonnes dead weight. The maximum size will not change but around 500 to 550 ships will visit the port each year when the full Stage 3 Expansion capacity is reached, in comparison to 141 ship visits in 2004/05.

Existing Environmental Values and Impacts of the Stage 3 Expansion

Land Uses and Protected Areas

PCQ has responsibilities for strategic land use planning for the port area and has prepared a Strategic Plan which designates land required for port purposes at Abbot Point. This plan also designates areas within port land that are of significant environmental value and are to be protected from any future infrastructure development. Of importance is the buffer zone along the eastern foredune area which is of significant cultural and ecological value. The land required for the Stage 3 Expansion is compatible with the current Strategic Plan and areas previously designated for protection will not be impacted by the project.

Land uses adjacent to the port land comprise mainly grazing on native and improved pastures with the nearest residence being approximately 7 km to the south west of the APCT. There are no other residences within 15 km of the port.

Areas of environmental significance protected by government legislation in proximity to the APCT comprise the Great Barrier Reef (GBR) Marine Park, GBR World Heritage Area and GBR State Marine Park. An extensive wetland area – the Abbot Point Caley Valley Wetland - is located immediately to the west of the terminal boundary and is designated as a Nationally Important Wetland. This designation does not provide specific protection under State or Commonwealth legislation.

Landform, Geology and Soils

The land component of the Stage 3 Expansion is located mainly on low-lying terrain immediately adjacent to the existing port infrastructure including the coal stockyards. The geology and soils comprise Quaternary sand plains derived mainly from wind action. The crest and swale formation within the plain has been partly removed by previous clearing activity. Part of the prominent hillock to the north of the stockyard area (Bald Hill) will be excavated to facilitate further expansion of the stockyard area. The recovered material will be used on site as fill where possible.

An issue with development within the low-lying areas of the site (ie where lower than 5 m AHD) is the potential presence of acid sulfate soils. Investigations have indicated that, given the proposed extent and depth of excavation likely to be associated with establishment of drainage works adjacent to the stockyard, there is no likelihood of exposure of such soils. Testing of the site did not show the presence of acid sulfate soils. The development area

presents a very low erosion risk and any sediment discharge will be contained within the two existing settlement ponds that contain runoff from the stockyard area of the APCT.

Water Resources

The main water resource issue associated with the Stage 3 Expansion is the potential effects of the project on the Abbot Point - Caley Valley Wetland. This wetland is located on privately-owned cattle grazing land adjacent to the terminal. This wetland is extensive (approximately 5,000 ha when fully inundated) and, during the wet season, is an important habitat and refuge for waterfowl. The wetland in its current condition has been created by bunding off tidal exchange. This bund is located on private land some 8km to the west of the APCT. The wetland now has highly variable levels of salinity with extensive hypersaline and ecologically degraded areas in the lower reaches. The wetland retreats on a seasonal basis to a small lake (Lake Caley) and can become completely dry during drought conditions.

The proposed development is well distanced from the wetlands, however stormwater runoff from the terminal area does occasionally occur, principally during major rainfall events. An assessment of the potential effects of runoff from the expanded terminal area has been undertaken. Water runoff from the stockpile area can be acidic from some coal types, however there is no evidence to indicate that the existing operation is having any adverse effect on the water quality of this wetland and, due to the runoff protection and detention storage provided by the two existing settlement ponds (the Primary and Secondary Settlement Ponds), this outcome is considered likely to continue with the Stage 3 Expansion.

Detailed investigations have also been conducted into the increased operational demands of the expansion on the existing groundwater supply from the Splitters Creek borefield. This source has been found to be likely to be adequate for these increased demands. Some improvement to the borefield operation is required however and additional monitoring of groundwater condition will be required, particularly salinity levels. Due to an absence of groundwater information at the terminal site, a comprehensive groundwater monitoring program has been established and has included installation of six monitoring bores around the perimeter of the site.

Terrestrial Flora and Fauna

An assessment of the ecological values of the area of the Stage 3 Expansion and the relationship with the broader environmental setting, including the Abbot Point Caley Valley Wetland, has been conducted. This found that vegetation likely to be disturbed within the Stage 3 Expansion area (approximately 16 ha) comprises mainly *Melaleuca viridiflora* low open forest and *Corymbia tessellaris* woodland that has previously been cleared and is classified as Not of Concern under the *Vegetation Management Act 1999*. No flora or fauna species of threatened conservation status are likely to be adversely affected by the project and no significant habitat will be impacted. Potential effects on nearby areas of conservation significance (ie the Abbot Point- Caley Valley Wetland) are related only to water quality issues described above.

Air Quality

Due to the isolation of the APCT from residential areas, there have been no air quality issues associated with emissions from the existing operation. A comprehensive investigation into existing coal dust emissions from the terminal and likely levels associated with the expansion has been undertaken, including a comparison with levels experienced at a similar operation (the coal terminals at the Port of Hay Point). Levels off-site are predicted to be well within EPA guideline levels and special dust controls, including the use of stockyard sprays for coal dust suppression, are not considered to be necessary. Best practice dust controls on new equipment have been nominated for installation where practical.

Noise

An evaluation of noise levels from the existing facility and the Stage 3 Expansion has found that no adverse impacts from noise emissions are likely. Potential effects of noise from off-shore construction activities and operations on marine mammals are likely to be minimal.

Marine Flora and Fauna

Investigations conducted by James Cook University from 1981 to 1987 into the effects of the construction and initial operation of the existing terminal found that the impacts were environmentally acceptable. Studies of off-shore areas likely to be impacted by the new berth development, berth dredging and spoil disposal have been conducted for this EIS. These investigations found that there were no significant ecological values associated with either the proposed berth area or the spoil disposal area. Areas of significant value, eg. Abbot Point Beach to the south of the terminal facilities, will not be impacted by the project.

While initial impacts of spoil disposal onto the spoil ground are likely to be significant due to burial, recolonisation by benthic biota is likely to be rapid with effects likely to be virtually indiscernible within three years of spoil disposal (as was the case following the original spoil disposal operations in 1982). Potential effects on marine mammals are also likely to be minimal given the short duration of dredging operations (two weeks) and relatively small volume of material to be dredged. Potential effects on turtles due to dredging operations will be minimised by undertaking such operations outside the turtle nesting season and the use of a turtle excluding device on the dredge suction head.

Marine Water and Sediment Quality

The existing water quality of off-shore areas is very good due to the absence of extensive agricultural, industrial or urban development in the immediate catchment areas. The potential effects of sediment plumes from the berth dredging and off-shore spoil disposal have been evaluated by modelling of a number of scenarios with differing wind and current direction. This modelling indicated that, while short term exposure to elevated suspended sediment concentrations will occur, levels away from the immediate area of the dredging and spoil disposal are likely to be within natural periodic fluctuations under the influence of prevailing winds and wave action. The sediments are also expected to disperse rapidly to the effect that any elevated levels will disappear within one week of the dredging operation. The short duration of these operations (two weeks) will ensure that there will be no adverse impacts on off-shore ecological values.

An evaluation of the possible presence of contaminants within the dredged material has also been undertaken in accordance with the National Ocean Disposal Guidelines for Dredged Material. No evidence of any significant level of potential contaminants was found and material is therefore suitable for unconfined ocean disposal.

Investigations have also been conducted into the levels of coal spillage that has occurred from the existing off-shore facilities and possible contaminants associated with existing sandblasting operations. These found that, while there was evidence of spillage around the immediate berth area, minimal spillage had occurred along the trestle and there was negligible dispersal of coal to areas away from the immediate ship loading zone. Similarly, there was no evidence of contamination from sandblasting maintenance operations. The proposed expansion of the off-shore facilities will incorporate industry best practice in terms of spillage control and significant adverse impacts are thus not expected with the increased throughput.

Coastal Processes

The absence of infilling of the existing berth pocket since the original dredging program indicates that there is minimal marine sediment transport occurring at the site and/or the currents/ship movements are sufficient to keep sediments in suspension. There is no evidence of any adverse impacts on coastal processes with the existing off-shore infrastructure and investigations conducted for this EIS indicate that no further impacts are likely. The

proposed re-establishment of the service jetty, which is located to the north-east of the terminal site, for the construction program will have a negligible effect on the stability of the coastline.

Cultural Heritage

Cultural heritage surveys of the Stage 3 Expansion areas have been conducted for this EIS and follow on from surveys conducted for all PCQ Abbot Point land in 1999. No items of cultural heritage significance in the expansion area have been identified and, due to previous site disturbances and the type of land to be disturbed, the potential for such items to occur is considered to be low. Areas of high Aboriginal cultural heritage significance in the Abbot Point area (including along the foredune area of the PCQ holdings that is protected within the Port of Abbot Point Strategic Plan) will not be disturbed by the proposed works. A Cultural Heritage Management Plan (CHMP) has subsequently been prepared, building on the recommendations of the cultural heritage survey. This CHMP has been the subject of liaison and an agreement with the Juru Traditional Owners of the land.

Visual Issues

The existing terminal is well away from any land-based public viewpoints. The off-shore facilities are an accepted feature in the local landscape when viewed from coastal areas or from sea and the proposed expansion of these facilities will have minimal effect on overall visual qualities.

Infrastructure and Shipping Issues

The proposed expansion is not expected to place a significant burden on existing public infrastructure, but rather will help to fund expanding infrastructure such as additional water supply to Bowen and the extension of sewerage infrastructure to the showgrounds.

The increased number of vessels visiting the port is also not expected to affect other users of the off-shore areas. There will be additional risks associated with increased shipping, such as potential shipping incidents and increased discharge of ballast water in the coastal zone. However, appropriate measures are in place to manage these risks.

Socio-economic Environment

As indicated above, the APCT is a significant distance from residential areas and there is no likelihood of there being any adverse effects on residents of the region due to dust or noise emissions. There have been no complaints from the public in regard to existing operations and this outcome is expected to continue with the expanded operations. The existing operation has integrated well into the Bowen socio-economic character since its initial development and has provided a valuable source of employment (including flow-on effects) and other economic benefits to the Bowen community. These benefits are expected to increase with the development of the Stage 3 Expansion.

The proposed accommodation camp in Bowen should have a minor short-term effect on the residences in proximity to the proposed camp site, however measures will be put in place to minimise impacts. These measures include locating the accommodation buildings away from private residences with separation by a buffer zone and taking workers by bus to the terminal to minimise additional traffic on the road. Significant benefits to Bowen businesses are expected from the presence of the workers.

Environmental Management

The existing operations are managed in accordance with an Integrated Environmental Management System (IEMS) approved by the EPA. As indicated earlier, there have been no significant environmental issues associated with the existing site operations. Given that the proposed operations are relatively straight forward and will involve similar measures to the existing management procedures implemented at the site, it is reasonable to expect that future operations can also be conducted in an environmentally responsible manner.

An Environmental Management Plan (EMP) has been prepared for the proposed Stage 3 Expansion and addresses mainly issues associated with the construction of the facility. However, where operational issues need to be considered in variance to existing environmental controls identified in the IEMS, these have been addressed in the EMP.