



Port Expansion Project EIS

Part B

Section B25 - Concluding Statement

B.25 Concluding Statement

The Port Expansion Project (PEP) has considerable benefits, not only for the economy and community of Townsville, but also for the North Queensland region, Queensland and Australia. The positive flow-on economic impacts resulting from the Project will support employment in a number of industries and associated service providers, both at the port and further afield in transport and mining sectors. This will lead to positive social benefits, increasing population growth, quality of housing, services and revenue for government to place into public assets.

The PEP was founded from comprehensive master planning for the port and surrounds. It responds to the need for additional berths to accommodate trade increases, as well as allowing for incremental growth of the port over the foreseeable future. The PEP concept design recognises both existing port infrastructure and future port activities. It would facilitate the development of port components, while allowing spatial and capacity requirements of cargo handling facilities, road, rail and shipping to facilitate the future throughput of goods and trade. Significant port operations relate to shipping, road and rail, while the above-wharf development of cargo handling facilities would be by the port's as-yet-unidentified tenants who would lease POTL land and berth facilities.

The PEP encompasses:

- development of a new harbour (the outer harbour) enclosed in a new breakwater (north-eastern breakwater) and land perimeter revetments
- dredging to deepen the bathymetry of existing channel alignments, together with minor channel widening near the outer harbour entrance
- construction of a new reclamation to the north-east of the existing port area based on re-use of over 4 million m³ of dredged material, faced by port infrastructure including new wharves and backing land.

The PEP has been declared a 'significant project' under the *State Development and Public Works Organisation Act 1971*. The location of the PEP in the Great Barrier Reef World Heritage Area and its relationship with other matters of national environmental significance under the Commonwealth's *Environment Protection and Biodiversity Conservation Act 1999* led to the Project being determined a 'controlled action' by the Minister for Sustainability, Environment, Water, Population and Communities.

As a result of these decisions, the PEP Environmental Impact Statement (EIS) has been prepared to address two separate regulatory requirements required by the state and Commonwealth governments being:

- Coordinator-General's *Townsville Port Expansion Project: Terms of Reference for an environmental impact statement* (Terms of Reference) (Appendix A1).
- Department of Sustainability, Environment, Water, Population and Communities and the Great Barrier Reef Marine Park Authority *Guidelines for an Environmental Impact Statement for the Port of Townsville Port Expansion Project, Queensland (EPBC 2011/5979/GBRMPA G34429.1)* (EIS Guidelines) (Appendix A2).

The EIS has investigated potential environmental impacts including social, economic and cultural effects that could result from the construction and operation of the PEP. Detailed consideration has been given to the need for alternatives to the Project. Literature reviews, database searches, baseline site surveys and original marine and atmospheric numerical models and calculations provide quantification and context to the assessment of impacts and identification of relevant mitigation and management measures.

Based on analysis and assessment, a range of potential impacts from the PEP were identified in Part B of the EIS. For the most part, these can be managed through the adoption of recommended mitigation measures and monitoring. Key environmental factors include marine ecology and water quality; noise; air quality; land use and scenic amenity; transport and social matters.

Construction and operational impacts, including potential cumulative impacts, have been identified for specific biophysical, socio-economic and cultural factors. Relevant mitigation and management strategies are described in a series of management plans in Part C of the EIS. These have been put

forward, in response to Terms of Reference and EIS Guideline stipulations, having assessed the likelihood and consequences of the set of development aspects and potential impacts. A detailed set of mitigation measures have been formulated and compiled into succinct outcome-based environmental management plans to guide implementation, monitoring and corrective actions throughout the construction and operation of the PEP.

Potential indirect effects such as on coral health on Magnetic Island fringing reefs and marine megafauna, such as dolphins, dugongs and turtles, will be managed in frequency, extent and magnitude through the adoption of mitigations that reduce the effect of noise, vessel activity and re-suspended sediments in turbid plumes in the open expanses of Cleveland Bay. In particular, a detailed Dredge Management Plan and reactive monitoring program are proposed to ensure effects from dredging on marine habitat areas are detected and managed to avoid long-term impacts.

Due to PEP's maritime setting, few landside biophysical effects would eventuate. There is no evidence, after consideration of potential risks, that matters such as migratory birds and acid sulfate soils would be significantly affected.

Air and noise effects would arise during the PEP's construction phases. Monitoring systems and predictive tools will enable adaptive management of landside development activities. This would both control the emission levels and manage potential exposures at sensitive locations. Further environmental assessments will precede industrial port side development through the *Sustainable Planning Act 2009* and other approval mechanisms. When the nature of potential emissions associated with the series of potential trade products is known, detailed analysis and validation will be given to those derived developments.

An overall assessment has been made in relation to risks of cumulative impact on significant factors and values. In particular, for matters of national environmental significance, it is concluded that effects from ports and shipping play only a modest part in the context of cumulative impacts on Great Barrier Reef values. The assessment has concluded that there are no significant cumulative impacts on the Great Barrier Reef World Heritage Area and other matters of national environmental significance.

Certain detailed mitigation and monitoring programs are also proposed to be undertaken either preceding or alongside the PEP construction; in order to contemporarily characterise the existing natural condition, verify predicted effects and to provide information on the longer-term condition of key factors of Cleveland Bay's coastal environment. Monitoring programs to be adopted include (but are not limited to):

- marine water quality monitoring
- marine habitats and megafauna monitoring
- noise monitoring
- air quality monitoring (ambient, construction phase and operational phase).

Residual impacts that require consideration of an offsets package include effects on the seabed of Cleveland Bay. These impacts relate to the permanent reduction in the seabed area inhabited by soft bottom benthos and a temporary reduction in the occurrence of the same benthos types on seabed that would be disturbed by shipping channel augmentation.

Specifically, the following can be concluded about key factors in relation to PEP development.

Marine Environment

Effects on marine and coastal biological, ecological and physical values can be considered in relation to matters of national environmental significance.

World Heritage and National Heritage

PEP is situated entirely within the Great Barrier Reef (GBR), which is both a World Heritage property and National Heritage place. Key impacts (as outlined above) relate to the irreversible loss of marine soft sediment habitat due to PEP reclamation. Temporary impacts may occur to other benthos as a result of the short dredging campaigns. Noise generated by maritime activities such as piling and construction is also likely to result in temporary effects on marine fauna. As evidenced by information assessed in Part B of the EIS, the contribution from ports and shipping is relatively concentrated and generally less, overall, on world heritage values when compared to the collective effect of threats facing the Great Barrier Reef

including climate change, runoff from rural, urban and coastal catchment development, fishing and boating.

Adverse short term impacts to ecological values would be expected to occur at localised spatial scales (measured in hundreds of metres in the vicinity of the construction/dredging footprints) and, with the exception of reclamation, expected to occur only in the short to medium term (measured in months to years). A wide range of mitigation measures and strategies would be adopted to reduce harm to marine ecological values supported by the Great Barrier Reef in the Cleveland Bay setting.

The most important designated natural landscape is the GBR and both the construction and operational activities of the PEP change its scenic values of natural views. The construction and operational activities associated with PEP would be viewed in the context of existing industry and shipping. Great Barrier Reef views are already affected by the existing development which consequently lowers the magnitude of perceived change and is only a small part of the GBR landscape. Its broader scenic values would be maintained beyond Cleveland Bay. PEP development and infrastructure is entirely consistent with port development, first installed on nearby coastline almost 150 years before now.

Residual impacts in the marine environment would be met with a series of elements in an offsets package. This relates to the permanent reduction in the seabed area inhabited by soft bottom benthos and a temporary reduction in that benthos' occurrence that would be disturbed by shipping channel deepening. Other than at those localised spatial scales, PEP is not expected to result in the loss of or have major impacts on any of the environmental values that contribute to the 'outstanding universal value' of the GBRWHA. In relation to the *Matters of National Environmental Significance; Significant Impact Guidelines 1.1* (DEWHA, 2009), PEP would not result in world heritage values being lost, degraded or damaged; or notably altered, modified, obscured or diminished.

Wetlands of International Importance

PEP is located 9 km from the Bowling Green Bay Ramsar listed wetland, which would not be directly affected by the Project. Indirect effects from turbid plumes generated by the Project, due to the dominant winds and currents, would not be likely to occur into southern Cleveland Bay waters nor near the Ramsar site. Even in unusual wind conditions, modelling predicted minimal movement of dredging 'plumes' to the east and south from the channel alignment. Given this, PEP is unlikely to affect populations of marine fauna that inhabit the broad Cleveland Bay region, which inter-connects with parts of the Ramsar site.

Threatened and Migratory Species including birds

Cleveland Bay supports habitats for migratory or transient threatened or protected marine fauna including whales, dugongs, dolphins and marine turtles. These animals have different likelihoods of occurring throughout the bay and within the Project area. The species with the highest likelihood in the Project area are green turtles (*Chelonia mydas*). Loggerhead (*Caretta caretta*), hawksbill (*Eretmochelys imbricata*) and flatback turtles (*Natator depressus*) are not common in Cleveland Bay inshore waters (GHD, 2008a; GHD, 2011). Two dolphin species are relatively common in and adjacent to the PEP footprint and the nearshore environments throughout Cleveland Bay: Australian snubfin dolphin (*Orcaella heinsohni*) and Indo-Pacific humpback dolphin (*Sousa chinensis*) (GHD, 2011). These two dolphin species are likely to feed near port areas (including over the PEP seabed) as both species have feeding and nursing areas in and around Ross River.

Most other listed marine species tend to favour offshore waters (e.g. whales, turtles), and could potentially occur at the Dredge Material Placement Area from time to time. Humpback whales (*Megaptera novaeangliae*) have been observed in the waters of Cleveland Bay (October to January) as they undertake their annual migration.

Dugongs (*Dugong dugon*) are relatively abundant in Cleveland Bay, particularly over the seagrass meadows nearest Cape Cleveland. They occur throughout Cleveland Bay as they move between seagrass meadows in and outside the bay. As there is no seagrass in PEP areas and sparse sporadic seagrasses at the DMPA and adjacent to dredged channels, it is most likely that dugongs only pass through these Project areas.

For migratory birds, recent studies by NRA (2012) showed that sooty oystercatcher (*Haematopus fuliginosus*), among other species, use existing breakwaters and revetments for roosting and other migratory birds use the eastern reclamation area from time to time for foraging. No significant adverse impacts are expected to arise on bird populations. In the years soon after its development and through its

staged completion, the PEP reclaim areas are likely to enhance opportunistic foraging in emplaced marine sediments and roosting along greater lengths of breakwater and revetments.

An increase in vessel traffic during port construction increases the probability for megafauna interactions, particularly green turtles, or the potential avoidance by some mobile species such as the dolphins. A Vessel Traffic Management Plan (Construction) will be implemented for construction plant used for PEP works, which will include strategies such as speed limits, fauna spotters and other strategies to avoid interactions with megafauna.

By 2025, cargo ship numbers to the Port of Townsville are projected to increase to just over 1,000 per annum from the current base of 675 per annum which equates to the current average rate of 2 ships per day increasing to an average of less than four 4 ships per day by 2040. Increased ship movements would also increase the probability for interaction with megafauna although, by virtue of the small incremental change in shipping numbers, only very marginally. In the context of its role and responsibilities within Port Limits, POTL intends to implement the Maritime Operations Management Plan which outlines measures that should be adopted by ships entering the port.

Great Barrier Reef Marine Park and Commonwealth Marine Area

PEP is largely located outside the Great Barrier Reef Marine Park (GBRMP); however, the existing Sea Channel (adjacent to Bremner Point) intersects the GBRMP in an area zoned as Habitat Protection. The deepening of the Sea Channel will extend into the GBRMP General Use Zone. After dredging and a direct impact from disturbance, no major changes to the functional or biodiversity values presently supported in this portion of the Sea Channel are predicted.

Based on the implementation of appropriate mitigation strategies, the Project will not have a significant impact on the GBRMP when assessed against the *Matters of National Environmental Significance; Significant Impact Guidelines 1.1* (DEWHA, 2009).

Social and Built Environment

Stakeholders and respondents through feedback after surveys generally believed that the PEP would potentially have mixed effects with positive impacts on the local economy and employment opportunities, neutral impacts on lifestyle and community aspects, and negative impacts on the environment. The two main potential environmental impacts noted in feedback were noise and dust. Other community concerns raised included the impacts on roads and rail, the potential increase in traffic, products to be transported through the Port and the potential impacts on the Great Barrier Reef. Consideration of these community concerns is reflected throughout this EIS with attention paid to those factors of most concern in order to minimise potential impacts from PEP through its assessment and identification of mitigation measures.

Further stakeholder engagement would inform people about the status of PEP assessment, timetables for construction works, environmental management practices, further approvals including legislative and statutory requirements affecting decision making, safety, workforce participation opportunities and opportunities for businesses and residents.

PEP will result in the extension of the existing port boundary, approximately one kilometre northwards from the mainland, through reclamation of subtidal land forming a prominent peninsular. Cleveland Bay itself provides visual containment of the port from the wider maritime landscape through two key headlands (Cape Pallarenda in the west and Cape Cleveland in the east). Construction and operations are likely to affect several near and distance 'receptor' groups and the scenic values associated with the World Heritage Area designation of Cleveland Bay.

Landside, in line with DTMR's intention to manage non-port related traffic on the Townsville Port Access Road (TPAR), road network options would be considered in detail during the ensuing design phase. Upon completion, TPAR will link Flinders and Bruce Highways directly to the Port of Townsville to provide more direct access to the port from the west and south, as well as reducing heavy vehicle traffic on the local road network and residential areas of Townsville. TPAR will provide the long-term strategic highway connection to the Port of Townsville; providing direct access to the port from the west and south, as well as reduce heavy vehicle traffic in residential areas to the south.

The adjoining port land has been highly modified through previous dredging and reclamation activities over decades, therefore the risk of disturbing or destroying items of indigenous cultural significance is low. Also, it is very unlikely that any place or site of non-indigenous heritage significance would be

directly affected during the construction or operational phases, however appropriate controls are identified in management plans.

Shipping movements into Port of Townsville by third party vessel owners and masters are regulated by state and national legislation and regulations and international codes, and that activity would be complemented by POTL's vessel and maritime plans presented in Part C of the EIS.

Conclusion

Townsville is located in Queensland's Northern Economic Triangle supporting the local, regional and state economy where the port must ensure capacity meets demand to provide Queensland producers and industries with access to international markets. The economy of Townsville performs well, shows strong population growth, enjoys incomes on par with Queensland and is well-diversified. The main competitive advantage of this region and particularly Townsville, as the main urban centre in the Northern Economic Triangle, lies in its skilled population, diversified and growing economy and existing infrastructure linking major resource centres in North West Queensland.

Given the pivotal nature of the development, POTL, as a port authority under the *Transport Infrastructure Act 1994*, will continue to be responsible for a progressive expansion of existing port infrastructure and operations. PEP operations would be conducted using established road and rail networks and shipping channels. In addition, road and rail as part of the Eastern Access Corridor (EAC) will also service the PEP as they come online, accounting for PEP planning and design with broader port operations.

For key factors and aspects, controls and mitigation measures are summarised in **Error! Reference source not found.** Chapter B23 showing clear means to address potential effects on Cleveland Bay, the Great Barrier Reef and the broader Townsville community.

In conclusion, the EIS shows that development and operational requirements for Port Expansion Project described in Part A would be managed through the adoption of the stated requirements, as detailed and summarised in Part B chapters and management plans in Part C of this EIS.