

Statement of Reasons

NORTHERN SHIP SUPPORT PTY LTD - DARWIN SHIP LIFT AND MARINE INDUSTRIES (SLAMI) PROJECT

PROPOSAL

Northern Ship Support Pty Ltd (the Proponent) submitted a Notice of Intent (NOI) for the Darwin Ship Lift and Marine Industries (SLAMI) Project (the Proposal) to the Northern Territory Environment Protection Authority (NT EPA) on 26 April 2018 for consideration under the *Environmental Assessment Act* (EA Act). Supporting information was provided by the Proponent on 22 May and 22 August 2018.

The Proponent proposes to construct and operate a common user ship lift, repair and maintenance facility approximately 700 m east of the existing East Arm Wharf and Marine Supply Base in Darwin Harbour (Figure 1). The Proposal supports Darwin's position as a logistics and marine services centre for the Australian Defence Force, Australian Border Force and major industries, including oil, gas and marine industries in the region. The Proposal is a Northern Territory Major Project.

Key project components include:

- waterside infrastructure:
 - a common user ship lift (synchro lift)
 - wet berths for vessel mooring (all tide)
 - manoeuvring basin
 - access channel
 - navigation aids
- landside infrastructure:
 - a vessel wash down area (high pressure wash down, mechanical scraping, handling of biofouling) with a separate contained drainage system
 - dry berths (vessel maintenance and repair works)
 - a blast and paint facility (semi-enclosed initially and later upgraded to a fully enclosed facility, subject to demand)
 - vessel transfer area
 - hardstands and sealed and unsealed laydown areas
 - internal roads, car parks, utility services and site office
 - stormwater system to capture and treat runoff water before discharge

Key construction activities:

- dredging of approximately 225 000 m³ of material comprising:
 - approximately 0.4 ha of high spots at the southern end of the access channel
 - approximately 1.5 ha to a depth of -2.5 m Lowest Astronomical Tide (LAT) to connect the facility with the access channel (partly within existing Multi-user Barge Ramp Facility (MUBRF) channel)

- approximately 2.1 ha to establish a manoeuvring basin to a depth of -4 m LAT
- approximately 1.9 ha to a depth of -7.4 m LAT for an all tide mooring area
- reclamation of 8 ha of intertidal area, including 1.2 ha mangroves, with dredged material
- land development above Highest Astronomical Tide (HAT) of approximately 3.4 ha
- relocation of an existing marine navigation aid further inshore
- placement of armour rock wall.

An overview of the proposal components and proposed dredging is provided in Figure 2.

Construction is estimated to take 18 months. While general construction and operation activities will be undertaken during normal working hours, tide dependant activities (e.g. dredging, piling and ship lifting) may need to be undertaken at night at times. Once operational, one to two vessels would utilise the proposed ship lift each week. Vessels would access the Proposal via the existing MUBRF channel.

The Proposal will be located between the Port of Darwin tenure and the MUBRF, covering approximately 4 ha of land and 52 ha of water (56 ha in total). The Proposal area consists of six parcels with one freehold, four Crown lease and one vacant Crown land tenures. Land use zoning for the Proposal area is Industrial Zone DV – Development, allowing for the development for major industries with strategic importance to the future economic development of the Territory¹.

¹ Northern Territory Planning Scheme. Available at: <https://nt.gov.au/property/building-and-development/nt-planning-scheme/northern-territory-planning-scheme>



Figure 1 Proposal location and current land uses (source NOI). Note: “SLAMI NOI Boundary” is referred to as Proposal area.

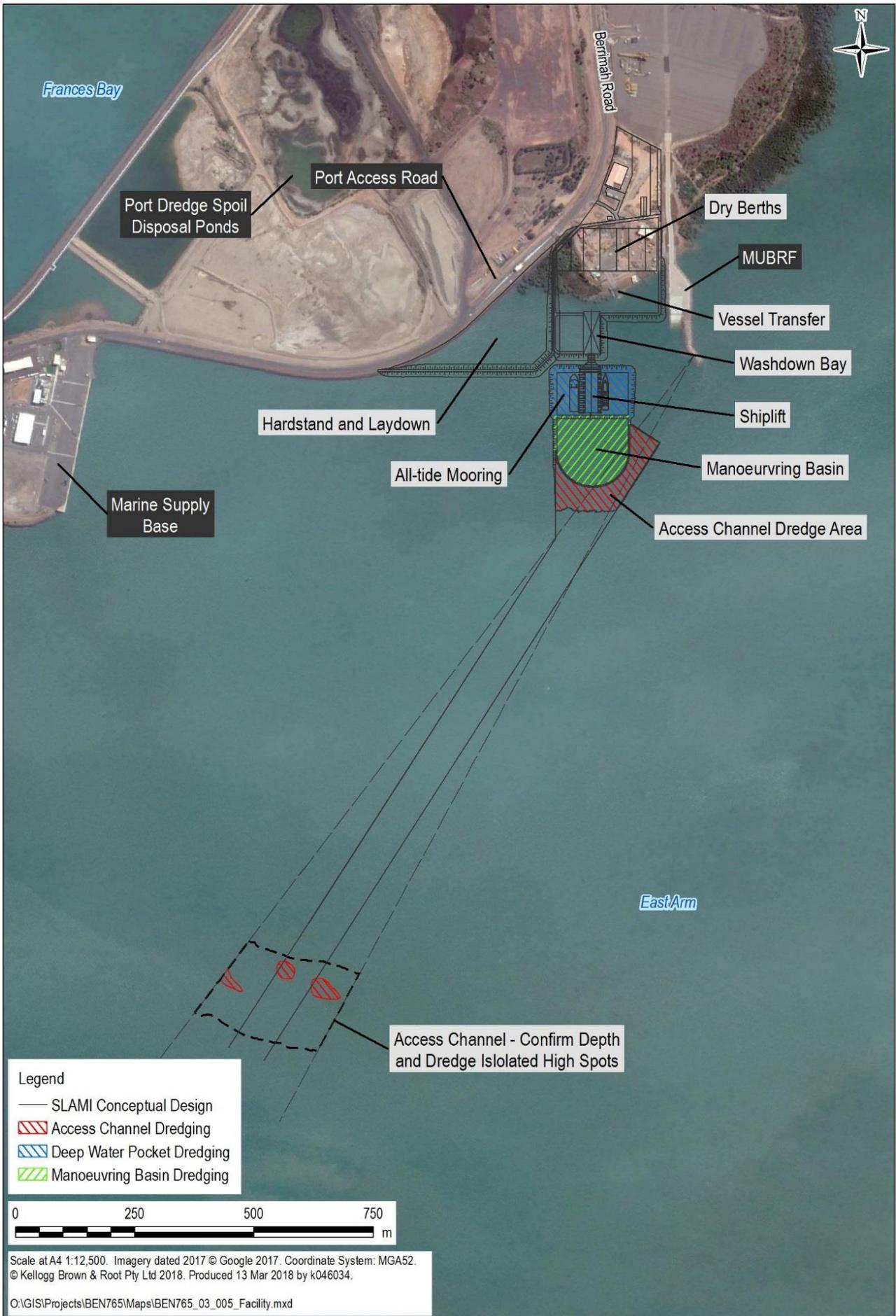


Figure 2 Proposed layout and dredging areas (source NOI)

On 24 September 2018, the Australian Government Minister for the Environment and Energy determined that the Proposal is not a controlled action for matters protected under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act). The decision stated that the proposed action does not require further assessment and approval under the EPBC Act before it can proceed.

CONSULTATION

The NOI and additional information have been reviewed in consultation with Northern Territory Government (NTG) advisory bodies (Attachment A) in accordance with clause 8(1) of the Environmental Assessment Administrative Procedures (EAAP).

The Proponent has requested further assessment under the EA Act at the level of an Environmental Impact Statement to contribute further to consultation and transparency with the community, and provide certainty around future approval processes.

JUSTIFICATION

The NOI, the Proponent's response to NTG advisory body comments and further information were assessed against the NT EPA's environmental factors and objectives².

1. Coastal processes

Objective: Maintain the geophysical and hydrological processes that shape coastal morphology so that the environmental values of the coast are protected.

The Proposal requires an access channel of -2.5 m LAT or deeper. The depth of the access channel meets the depth requirements with the exception of high spots at the outer extent of the access channel and at the northern connection to the MUBRF channel. Figure 2 shows the location of proposed capital dredge works with an approximate sediment volume of 225 000 m³.

The NT EPA identified that the potential impacts from the proposed dredging and reclamation activities on bathymetry and coastal processes have not been adequately established in the NOI. The Proponent provided further information based on other dredging activities in the East Arm area and indicated that investigations and modelling will be undertaken. The NT EPA supports the proponent's commitment as it is in line with the NT EPA's requirement for a comprehensive investigation of the potential impacts of the proposed dredging as outlined in the *NT EPA Guidelines for the Environmental Assessment of Marine Dredging in the Northern Territory*³ (the Guideline).

The NT EPA identified that the information provided in the NOI is not sufficient to assess potential impacts on coastal processes. Further information is required to enable the NT EPA to form a view whether its environmental objective can be met.

2. Marine environmental quality

Objective: Maintain the quality and productivity of water, sediment and biota so that environmental values are protected.

Existing pressures on the marine environmental quality of East Arm include industrial activities, urban runoff and discharges, maintenance dredging and clearing of mangroves. The majority of industrial activities are associated with the Port of Darwin, marine services providers and major

² NT EPA, 2018. *NT EPA Environmental Factors and Objectives*. Northern Territory Environmental Protection Authority, Darwin. Available at: <https://ntepa.nt.gov.au/environmental-assessments/env-assessment-guid>

³ NT EPA, 2013. *Guidelines for the environmental assessment of marine dredging in the Northern Territory*. Northern Territory Environmental Protection Authority, Darwin. Available at: https://ntepa.nt.gov.au/data/assets/pdf_file/0007/287422/guideline_assessments_marine_dredging.pdf

development projects. East Arm receives urban stormwater runoff from the city of Darwin and a small discharge from the Berrimah Wastewater Treatment Plant via the tidal Bleasers Creek. Industrial development on East Arm (between Bleasers and Hudson Creek) has resulted in the clearing of mangroves, however the majority of mangrove habitats on East Arm remain intact.

Despite the existing pressures, marine water quality at East Arm was assessed as 'good' in 2017 and rated 'good' and 'excellent' in the annual Darwin Harbour Report Card⁴ since 2009. Water clarity was the main parameter responsible for the lower marine water quality ratings.

The NT EPA identified that the Proposal has the potential to significantly impact on marine environmental quality through construction and operation activities such as disturbance of marine sediments and operation of a ship maintenance facility.

The characteristics of the material to be dredged are not certain at this stage. The NOI states the local rock formation is reasonably close to the seafloor surface with the volumes of the overlying layer of fine material being "quite thin", and that further overwater geotechnical investigations have commenced to obtain a greater understanding of the sediment characteristics. The NT EPA agrees with the Proponent that further geotechnical investigations are required to address uncertainties in the sediment characteristics and to determine the dredging methods and scale of dredging required. The Guideline also recommends acquisition of geotechnical data and investigations and modelling to establish the zone of influence and the scale of suspended sediment plumes. The outcomes will provide greater certainties to the assessment of potential environmental impacts including potential impacts on habitats supporting threatened species.

In addition to the initial dredging for the Proposal, there are other dredging campaigns proposed for Darwin Harbour (by other proponents). Requirements for maintenance dredging of this Proposal may also be required however, no details are provided in the NOI. The NT EPA considers that there is potential for the Proposal to contribute significantly to cumulative impacts.

Acid sulfate soil (ASS) investigations for adjacent development projects⁵ and limited investigations of the project area indicated that the marine sediments contain pyrite but have no potential for net acid generation due to an excess of inherent neutralising capacity. However, the NOI states that ASS mapping of the Darwin Region indicates that ASS material may be present in the western section of the Proposal area. The NT EPA agrees with the Proponent that further characterisation of the ASS potential of marine sediments and an ASS Management Plan are required, which is also a requirement in the Guideline.

The NOI stated that previous marine sediment investigations of the East Arm area showed no or low levels of contamination^{6 7 5}. In 2009 marine sediment studies within the Proposal area⁸ found that concentrations of naturally occurring arsenic exceeded the National Assessment Guidelines for Dredging 2009⁹, which was also a finding of geochemical investigations for the adjacent MUBFR⁵.

⁴ DENR, Darwin Harbour 2017 report cards. Department of Environment and Natural Resources. Available at: <https://denr.nt.gov.au/land-resource-management/water/water-management/darwin-harbour/darwin-harbour-region-report-cards/darwin-harbour-report-card-2017>

⁵ URS, 2014. Multiuser Barge Facility Sediment Geochemical Investigation. Report prepared by URS Australia Pty Ltd for Department of Lands, Planning and Environment, 42214008/MUBF SGI/0.

⁶ URS, 2008. Marine Water and Sediment Quality Study. Report prepared by URS Australia Pty Ltd for INPEX Browse Ltd, Perth. 42906729-1892: R1359.

⁷ URS, 2012. East Arm Wharf Expansion Project: Sediment Geochemical Investigation. Report prepared by URS Australia Pty Ltd for Department of Lands and Planning. R1638.

⁸ URS, 2009. Ichthys Gas Field Development Project: nearshore marine ecology and benthic communities study. Report prepared by URS Australia Pty Ltd for INPEX Browse Ltd.

⁹ Australian Government, 2009. National assessment guidelines for dredging. Commonwealth of Australia, Canberra. Available at: <http://www.environment.gov.au/system/files/resources/8776675b-4d5b-4ce7-b81e-1959649203a6/files/guidelines09.pdf>

The Guideline recommends new sediment quality investigations at least after five years or earlier if contamination has occurred. The NOI indicated that the last marine sediment investigations of the proposal area are at least nine years old, which according to the Guideline would require resampling. The NT EPA agrees with the Proponent that a full characterisation of the contamination status of marine sediments in the Proposal area is required to obtain a greater understanding of recently accumulated sediments and to adequately assess the impact of the proposed dredging on marine environmental quality.

The NOI states that the facility will include control mechanisms to prevent the introduction of marine pests and accommodate Australian Quarantine and Inspection Service (AQIS) requirements. The NT EPA identified, in line with the Proponents commitment, the requirement for comprehensive pest and quarantine management plans and procedures during construction and operation.

The NT EPA identified that further information is required to adequately assess the risk for contaminants (e.g. antifouling from abrasive blasting in the wash down bay and painting in the paint bay) to be released to the marine environment and the management and mitigation measures to be implemented to avoid or minimise potential impacts to the marine environment.

The Proponent will be required to demonstrate that Water Quality Objectives and Beneficial Uses are maintained during the construction and operational phases of the Proposal. Management of water quality impacts will need to be clearly articulated including standards, trigger levels and strategies to assess, monitor and mitigate the following:

- disturbance of benthos and liberation of contaminants, including nutrients, nitrogen and phosphorous
- blanketing effects of disturbed sediments on local benthic flora and fauna
- contamination from run-off, including anti-fouling
- sediment accretion in mangroves.

The NT EPA considers that the Proposal has the potential to have a significant impact on marine environmental quality, and assessment is required to enable the NT EPA to form a view whether its environmental objective can be met.

3. Benthic communities and habitats

Objective: Protect benthic communities and habitats so that biological and functional diversity and ecological integrity are maintained.

Recent benthic habitat surveys¹⁰ of Darwin Harbour indicated that sponge gardens, seagrasses, macro-algal communities and coral dominated communities may be present within and in the vicinity of the Proposal area.

The NT EPA identified that the benthic and seagrass habitat information of the Proposal area is not sufficient to allow a robust assessment of potential impacts on benthic flora and fauna and consequent impacts to marine threatened species, as a result of permanent loss of foraging habitat from reclamation or dredging. The NT EPA identified, in line with the Proponent's commitments and the Guideline, the following requirements to provide greater certainty to the assessment of potential impacts from suspended sediment on the benthic communities:

- a review of all existing data and a targeted benthic habitat survey of the Proposal area
- predictive modelling to derive full-coverage benthic habitat maps for at least the proposal area and zone of influence, including mangroves

¹⁰ DENR benthic community database. Department of Environment and Natural Resources, Darwin.

- suspended plume modelling and sediment transport modelling to establish a zone of influence.

In order to effectively prevent, monitor and mitigate potential impacts of dredging to surrounding benthic environment, including mangroves, The NT EPA recommends the development of:

- trigger levels to reduce potential impacts
- detailed measures to mitigate potential impacts during construction and operation.

The NT EPA considers that the Proposal has the potential to have a significant impact on benthic communities and habitats, and further information is required to enable the NT EPA to form a view whether its environmental objective can be met.

4. Marine flora and fauna

Objective: Protect marine flora and fauna so that biological diversity and ecological integrity are maintained.

Three species of coastal dolphins, the Australian snubfin dolphin, the bottlenose dolphin and the Australian humpback dolphin, have been recorded foraging and socialising within the East Arm area^{11 12} with a high likelihood of dolphins occurring in the Proposal area.

Aerial surveys¹³ identified that East Arm supports substantial turtle populations. The threatened Hawksbill turtle was recorded within 5 km of the Project area¹⁵. Although there are no nesting sites within a 5 km radius, Hawksbill turtles may use the area for feeding. However, the importance of subtidal habitats for feeding is uncertain, as the extent and structure of the benthic community (food source) and the Hawksbill turtle's subtidal feeding habits are currently unknown.

While no dugongs were recorded in the East Arm area during the aerial surveys¹³, the occurrence of seagrass near the proposal area, including the Elizabeth River, indicates that there is potential for dugongs to frequent the East Arm area.

Proposed construction and operation activities that have the potential to directly and indirectly impact on marine megafauna through disturbance (noise, vibration and light pollution) and loss of foraging habitat include:

- dredging (construction and maintenance)
- land reclamation (construction)
- armour rock placement (construction)
- pile installation (construction)
- vessel traffic (construction and operation)
- ship lift (operation).

In line with the Proponent's statements and the Guideline, the NT EPA identified the requirement for a comprehensive assessment of potential impacts on the megafauna of Darwin Harbour and the development and implementation of appropriate avoidance, monitoring, management and mitigation measures including:

- a targeted marine benthic habitat survey of the areas to be disturbed during construction
- assessment of underwater noise impacts during construction and operation.

¹¹ DENR DolFin database. Department of Environment and Natural Resources, Darwin.

¹² Brooks L, Palmer C, Griffiths AD and Pollock KH, 2017. Monitoring Variation in Small Coastal Dolphin Populations: An Example from Darwin, Northern Territory, Australia. *Front. Mar. Sci.* 4:94.

¹³ Cardno, 2015. Turtle and dugong post-dredging report. Ichthys Nearshore Environmental Monitoring Program. Report number: L384-AW-REP-10250_0.

The NT EPA considers that the Proposal has the potential to have a significant impact on marine flora and fauna, and further information is required to enable the NT EPA to form a view whether its environmental objective can be met.

5. Terrestrial flora and fauna

Objective: *Protect the NT's flora and fauna so that biological diversity and ecological integrity are maintained.*

The NT EPA's assessment of the NOI identified the terrestrial portion of the Proposal is highly modified by past uses, has no significant biodiversity values and contains no relevant threatened terrestrial species records. However, the Proposal has the potential to impact on shorebirds, including migratory birds, mainly through the loss of intertidal foraging habitat and additional disturbances to the existing noise and light pollution and vessel traffic experienced at the East Arm marine and industrial precinct.

A large number of migratory shorebird species, including seven species listed as threatened, have been recorded in the vicinity of the Proposal area^{14 15}. This may be partly due to the close proximity to intertidal mudflats with suitable habitat for shorebirds during different tidal phases. There are no known roosting sites in the project area. The nearest roosting site is approximately 500 m away at dredge spoil Pond D (East Arm wharf) supporting over 15 species of migratory shorebird and considered an important roosting habitat under the criteria of the Commonwealth of Australia¹⁶.

The NT EPA acknowledges that East Arm Wharf is an operating port.

The proposed reclamation of approximately 8 ha of tidal mud flat habitat, including 1.2 ha of mangroves, represents less than 0.1% of the total available intertidal habitat available of migratory shorebirds in Darwin Harbour. The NT EPA assessed that it is likely that the direct and indirect impacts from localised disturbance of the littoral and intertidal areas associated with this Proposal pose a low risk to regional shorebird populations.

The NT EPA is satisfied that the environmental objective for Terrestrial flora and fauna is likely to be met.

6. Social, economic and cultural surroundings

Objective: *Protect the rich social, economic, cultural and heritage values of the Northern Territory.*

Social

The NT EPA identified that comprehensive stakeholder consultations are required, especially recreational fishing organisations, tourism operators, tourism agencies and commercial operators to assess social impacts.

Economic

The NOI stated that the proposed ship lift facility was identified as a need by the NT Government to support the region's status as a growing logistics and marine services hub for northern Australia. Details of the economic benefits of the Proposal were not provided.

¹⁴ Lillieyman A, Lawes MJ & Garnett ST, 2015. Final report on Project D13-0379 – Darwin – East Arm Port Project. Report to the Department of Business, Northern Territory Government.

¹⁵ DENR fauna database. Department of Environment and Natural Resources, Darwin.

¹⁶ Commonwealth of Australia, 2017. EPBC Act Policy Statement 3.21—Industry guidelines for avoiding, assessing and mitigating impacts on EPBC Act listed migratory shorebird species, Commonwealth of Australia. Available at: <http://www.environment.gov.au/system/files/resources/67d7eab4-95a5-4c13-a35e-e74cca47c376/files/bio4190517-shorebirds-guidelines.pdf>

Cultural

The NOI states that the Aboriginal Areas Protection Authority (AAPA) advised that there are no records of sacred sites within the Proposal area. The Proponent advised in its response to NOI comments that an application for an AAPA Authority Certificate has been lodged.

Heritage

The NOI states that there are no records of Aboriginal archaeological and heritage sites within or in the immediate surrounds of the Proposal area on the NT Heritage Register and there are no declared / registered shipwrecks within the Proposal area. The closest registered shipwreck, the HMAS Kelat, is located 1.5 km west of the Proposal area. Three registered aircraft wrecks (US Navy Catalinas 4, 5 and 6) are at least 1 km away from the Proposal.

Site investigations of the adjacent MUBRF¹⁷ concluded that the seabed within and surrounding the MUBRF has served as a 'rubbish dump' since WWII. Two WWII sites, the East Arm Flying Boat Base and the Lugger Maintenance Section, are located within the Proposal area. The Minister previously elected not to declare the East Arm Flying Boat Base a heritage place. Under the current design, the East Arm Flying Boat Base will be covered with fill in the reclamation. Further information about the Lugger Maintenance Section was not provided.

One WWII aircraft wreck site, Catalina 2, is located within the proposed access channel of this Proposal and within the existing MUBRF channel. In 2015, the Minister elected not to declare Catalina 2 a heritage place.

Despite the Minister's decisions not to declare the East Arm Flying Boat Base and Catalina 2 as heritage places under the *Heritage Act*, there is potential for the site and wreck to have heritage value.

The NT EPA supports the Proponent's plans to conduct an unexploded ordinance survey of the Proposal area and to develop and implement cultural heritage impact, mitigation and management plans.

The NT EPA considers that the Proposal has the potential to have a significant impact on heritage values, and further information is required to enable the NT EPA to form a view whether its environmental objective can be met.

CONCLUSION

The NT EPA considers that the Proposal has the potential to have significant environmental impacts, in particular the environmental objectives of the following NT EPA factors may not be met, based on the information required:

- Coastal processes
- Marine environmental quality
- Benthic habitat and communities
- Marine flora and fauna
- Social, economic and cultural surroundings.

The NT EPA considers that a more comprehensive evaluation of those potential impacts and mitigation measures is required to address uncertainties and consequently to enable the NT EPA to form a view about whether its environmental objectives can be met.

¹⁷ Aurecon, 2015. Multi User Barge Ramp Facility – Archaeological Report. Prepared for Department of Infrastructure. Reference 240621.

Detailed matters for assessment will be set out by the NT EPA in the Terms of Reference for the Proposal. Draft Terms of Reference will be available for public review.

DECISION

The Darwin Ship Lift Facility and Marine Industries Project has the potential to have a significant effect on the environment and its environmental significance is such that the preparation of an Environmental Impact Statement is necessary with respect to the proposed action.



DR PAUL VOGEL
CHAIRMAN

NORTHERN TERRITORY ENVIRONMENT PROTECTION AUTHORITY

14 NOVEMBER 2018

Attachment A: Northern Territory Government advisory bodies consulted on the Notice of Intent

Department / NTG Advisory Body	Divisions
Department of Environment and Natural Resources	Flora and Fauna
	Water Resources
	Environment
	Bushfires NT
	Rangelands
Department of Infrastructure, Planning and Logistics	Lands Planning
	Infrastructure
	Transport
Department of Primary Industry and Resources	Fisheries
	Mining Compliance
	Petroleum
	Primary Industry
Department of Tourism and Culture	Heritage
	Tourism NT
	Arts and Museums
	Parks and Wildlife
NT Police, Fire and Emergency Services	Business Improvement and Planning
Department of Health	Environmental Health
	Medical Entomology
Department of Trade, Business and Innovation	Economics and Policy
	Strategic Policy and Research
Department of Housing and Community Development	Maintenance Planning
	Housing supply
Power and Water Corporation	
Aboriginal Areas Protection Authority	Technical
Department of the Attorney-General and Justice	Commercial Division
	NT Worksafe
Land Development Corporation	
Department of the Chief Minister	Economic and Environment Policy