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Environment Management Plan

This DEIS describes the existing environment at EAW, discusses the certain and likely impacts associated with the proposed development, and recommends measures which would manage and or / mitigate these impacts. Where impacts have been identified, the proponent has made a series of commitments to manage these impacts (the commitments are presented at the end of relevant DEIS chapters). The objective of this EMP is to provide objectives and targets for sound and responsible environmental management, based on the commitments made in this DEIS.

The DPC already operates an environment management system (EMS). An EMS is a mechanism by which an organisation's environmental issues are systematically managed. Relevant aspects of the environment are monitored, monitoring results and records are documented, and the environmental performance of an organisation can be audited. The DPC EMS is based on the requirements of ISO14001:2004 (International Standard for Environmental Management Systems).

One of the requirements of ISO14001:2004 is the preparation of an EMP. An EMP for EAW has therefore already been prepared (Coffey Environments, 2010), and currently applies to the existing operations (refer **Appendix S**). This EMP for the proposed expansion of EAW aligns and meets the requirements of the existing DPC EMP. The stringency of environmental management of the proposed development will therefore meet or exceed the standards which currently apply to EAW.

This EMP sets out the framework, objectives and targets for sound and responsible environmental management of the proposed expansion of EAW. It functions as a framework for management plans specific to relevant environmental aspects (e.g. a stormwater management plan), standard operating procedures (e.g. procedure for loading dry bulk), training procedures and manuals, monitoring procedures and auditing procedures.

The intent of this EMP is that it is a dynamic document subject to regular review and continual improvement. It will be integrated with the existing EAW EMP, and referred to on an ongoing basis to guide and inform environmental planning and management at EAW. The EMP will be reviewed and updated to reflect any significant changes in DPC's environmental risks, impacts, management strategies or legislative requirements. This EMP also defines the roles and responsibilities of DPC, tenants, contractors, government agencies and other organisations.

26.1 Environmental Management Framework

26.1.1 Overview of the Environmental Management System

There are 12 EMS procedures that explain the operation of the DPC EMS and are summarised as follows:

1. **Issues**. This procedure details the method by which DPC identifies its environmental issues and the actual or potential impacts associated with those issues. The DEIS has been prepared with regard to this procedure.
2. **Legal and Other Requirements**. This procedure's purpose is to enable relevant DPC employees to interpret legislative and other statutory requirements and determine other requirements applicable to the business. Legislation relevant to the proposed expansion of EAW is discussed in Chapter 1.
3. **Objectives and Targets**. This procedure assists the Port Management Group set environmental objectives and targets, based on the impacts identified and the risk ranking assigned in the Issues Register to achieve the goals outlined in the Environmental Policy. The objectives and targets of

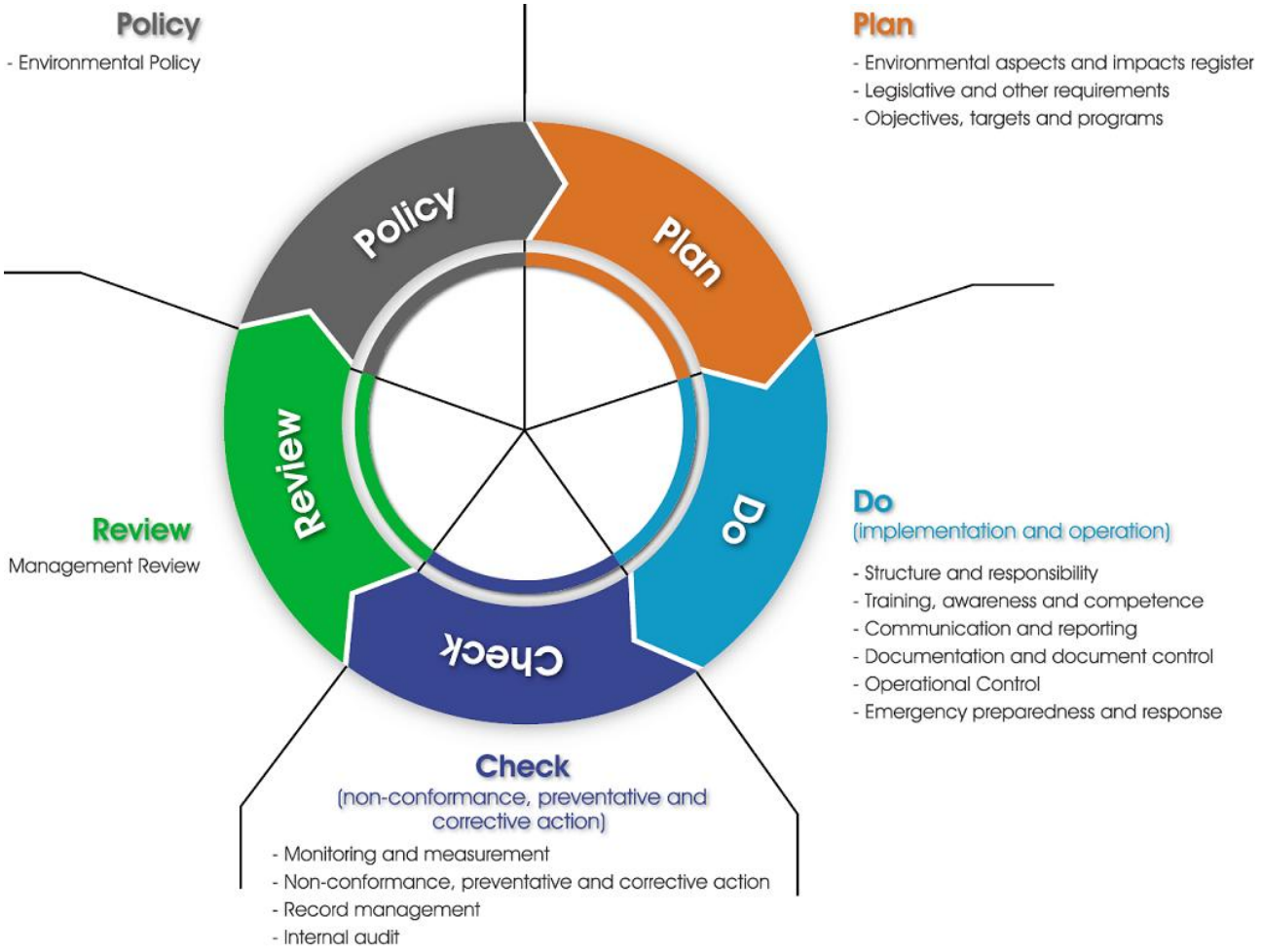
this EMP have been derived with regard to this procedure, the commitments listed at the back of relevant chapters, and the existing EAW EMP.

4. **Training, Awareness and Competence**. This procedure provides guidelines for environmental awareness training of relevant DPC employees to ensure DPC personnel have the specific skills, knowledge and competency levels in their roles to achieve the goals of the Environmental Policy; and that appropriate training is provided where gaps in skills, knowledge and / or competency are identified.
5. **Communication and Reporting**. This procedure purpose is to ensure that there is clear communication on environmental issues within DPC; and a system for receiving, documenting and responding to relevant communication from external interested parties.
6. **Document Control**. The purpose of this procedure is to describe the procedure for the control of all documentation relating to the EMS.
7. **Emergency Preparedness and Response**. This procedure provides DPC with a framework to establish and maintain procedures to identify the potential for and to respond to accidents and emergencies, and for preventing and mitigating the environmental impacts that may be associated with them.
8. **Monitoring and Measurement**. The purpose of this procedure is to ensure that effective monitoring and measurement of DPC activities that may have a significant impact on the environment are undertaken on a regular basis. Monitoring and measurement activities have been recommended in this DEIS.
9. **Non-conformance, Corrective and Preventative Action**. The purpose of this procedure is to provide a guideline for DPC to ensure that major technical non-conformances are identified and included on the Issues Register; and system non-conformances are identified and addressed prior to the finalisation of the audit report.
10. **Records**. This procedure provides guidelines for the identification, maintenance and disposal of environmental records.
11. **Management System Audit**. This procedure describes the methods and responsibilities for the planning, preparation, performance, reporting and follow up of the EMS Audits.
12. **Management Review**. This procedure provides a guideline for the Management Review of DPC's Environmental Management System.

An EMS consists of five main elements: policy; plan; do; check; and review (refer Figure 26-1). The current status of the EMS is detailed in reference to the five main elements below. The relationship between the policy, procedures, EMPs, and other documents is summarised in Figure 26-2.

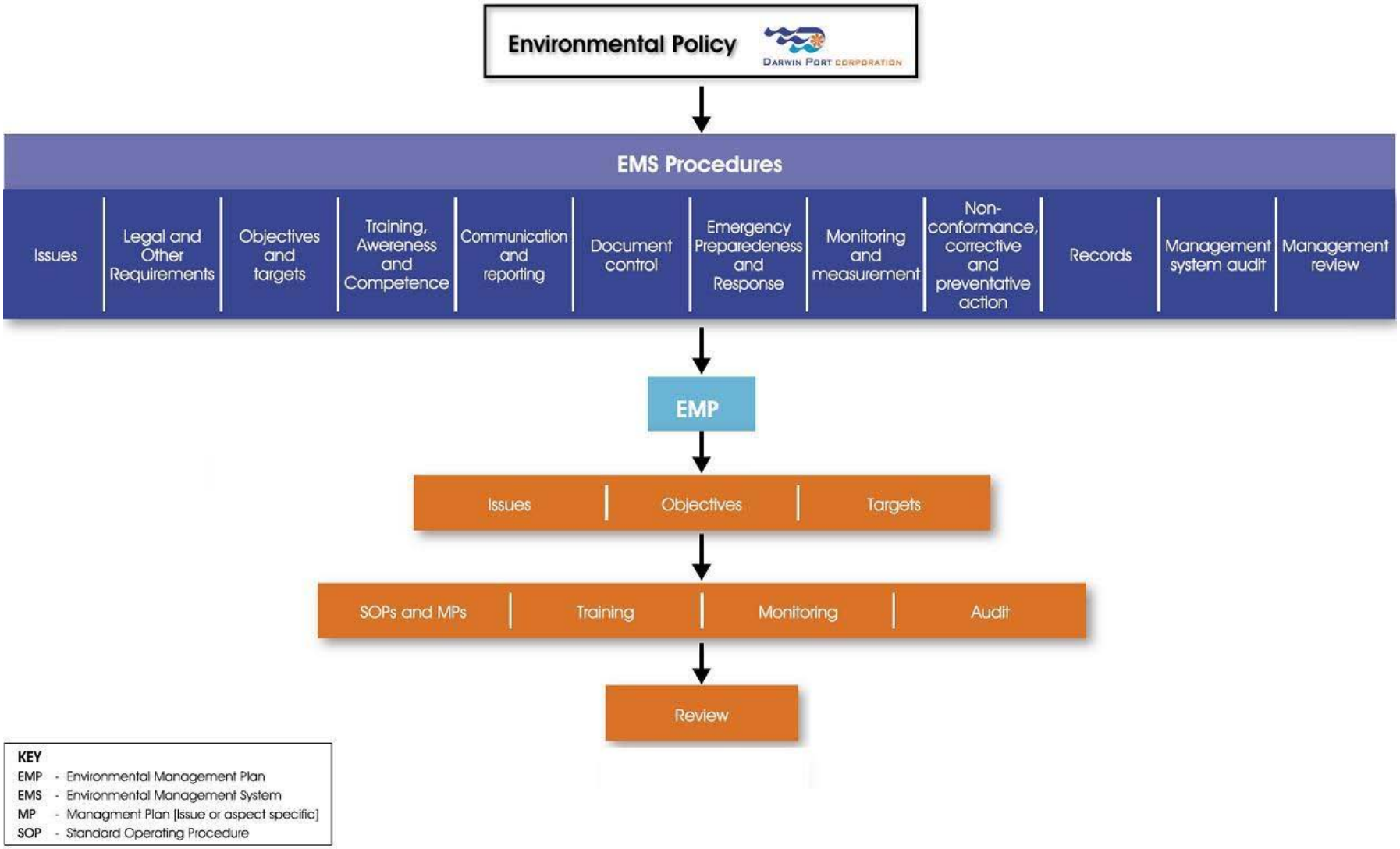
26.1.2 DPC Environmental Policy

The DPC's environmental policy is provided in Chapter 1. The environmental policy outlines the overall intention and direction of the DPC in relation to its environmental performance and is endorsed by the Chief Executive Officer (CEO) and the Port Management Group. The environmental policy requires that the DPC develops and maintains an EMS, provides sufficient resources to achieve its environmental targets and seeks to prevent pollution from its activities. Compliance with the policy is required by DPC employees, contractors and those otherwise engaged



Source: Coffey Environments, 2010

Figure 26-1 Environmental Management Process Flow



Source: Adapted from Coffey Environments, 2011-03-27

Figure 26-2 Environment Management System Documentation

26.1.3 Plan

The planning element of the environment management process consists of:

- The environmental aspects and impacts register (i.e. the 'issues' register).
- Legislative and other requirements.
- Objectives, targets and programs.

This EMS has been established with the Issues Register as the core component that captures all the environmental issues that need to be addressed and risk ranks these, this risk ranking then drives the setting of environmental objectives, targets and programs in a focussed manner.

26.1.4 Do

This is the implementation and operation element of the EMS. The components of this element are:

- Structure and responsibility.
- Training awareness and competence.
- Communication and reporting.
- Documentation and document control.
- Operational control.
- Emergency preparedness and response.

These components of the EMS are integrated with DPC's standard business practices.

26.1.5 Check

This is the non-conformance, preventative, and corrective element of the EMS, and includes:

- Monitoring and measurement.
- Non-conformance, preventative and corrective action.
- Record management.
- Auditing.

26.1.6 Review

The reviewing element of the EMS is the responsibility of the DPC Management (Port Management Group and the CEO). Management reviews are undertaken to:

- Determine any system deficiencies and identify changes required, in order to ensure ongoing suitability, adequacy and effectiveness of the system.
- Determine whether objectives and targets are still appropriate.
- Determine any environmental impacts of DPCs activities, products or services that impact on financial performance and competitive position.

26.2 EMP Roles and Responsibilities

26.2.1 Darwin Port Corporation

The DPC is the authority ultimately responsible for the control and management of EAW. The general roles, responsibilities and powers of the DPC are defined in the *Darwin Port Corporation Act* and associated *Port By-Laws*, and include powers to require other users of the Port to use the area in a

safe and sustainable manner. The DPC is also responsible for the *Darwin Port (Handling and Transport of Dangerous Cargoes) By-Laws*.

The DPC CEO is ultimately responsible for DPC's environmental performance. Effective implementation of this EMP is the responsibility of the CEO and the Port Management Group. Authorisation and endorsement of responsibilities within the EMP rest with these roles.

The administration of the EMP document is the responsibility of the DPC Environmental Services Department. In particular it is the responsibility of the Environmental Manager under the management of the Corporate Services Manager, to ensure the document is regularly reviewed and updated.

Roles and responsibilities of key DPC staff in relation to the EMS are detailed below. It is important to note, however that all departments play a role in environmental management.

Chief Executive Officer

The CEO is accountable or responsible for:

- Formulation and updating of the Environmental Policy, and for ensuring that it is communicated, understood and implemented by all DPC employees.
- Development of generic objectives and targets, which must clearly link to the goals stated in the Environmental Policy.
- Communicating and assigning Managers their legal and other environmental accountabilities as defined by the Legal Register.
- Assigning authority to employees responsible for ensuring that the appropriate authorities are informed of any emergency incidents in accordance with legislative requirements.

Port Management Group

Each member within the Port Management Group is accountable or responsible for:

- Ensuring all environmental issues and impacts are identified and addressed within their department.
- Continual review of their work processes for environmental issues and associated impacts.
- Notifying the Environmental Manager where new or previously unidentified issues are identified.
- Development of specific objectives and targets for issues within their department.
- Ensuring that the coordination, identification, and on-going review of the training needs of their department are undertaken.
- Ensuring all employees and contractors are aware of the significant or potentially significant environmental impacts relevant to their work.
- Ensuring new documentation or amendments to existing documentation are actioned within an agreed timeframe and quality standard.
- Preparing objectives and targets for non-conformances assigned to their Department.
- Ensuring that records produced by their teams in the operation of the EMS are legible, complete, correctly stored and maintained.
- Attending the biennial EMS review and presenting an overview of performance against objectives and targets.

Environmental Manager

The environmental manager is responsible for:

- Ensuring inspections, assessments and audits are performed on a regular basis.
- Verifying the 'risk' ranking of each issue in association with the Port Management Group.
- Arranging for suitably qualified personnel to undertake assessments and audits in consultation with the Port Management Group as required.
- Ensuring all of DPC's environmental issues and impacts are identified, documented and reviewed regularly.
- Advising the CEO that the necessary systems are in place to achieve environmental compliance.
- Provision and maintenance of a legislative requirements document listing the applicable legislation and legal interpretation of clauses applicable to DPC.
- Tracking the performance against environmental objectives and targets monthly.
- Quality control and maintaining document registers for all EMS documentation under their control and ensuring that 'read only' revisions of documents are available to the workforce on the Intranet.
- The generation of new documentation and the approval of amendments to existing EMS documentation.
- Conducting and reporting the findings of DPCs monitoring programmes.
- Maintaining the equipment master lists and equipment calibration records, and for arranging scheduled calibration checks to be undertaken.
- Ensuring that relevant monitoring and measuring equipment is identified and calibrated.
- Coordinating the external compliance audit.
- Ensuring that records produced by their teams in the operation of the EMS are legible, complete, correctly stored and maintained.
- Ensuring that required actions are identified and solutions are effectively implemented.
- Maintaining and reviewing the record register to ensure that adequate records are being maintained to show the effective functioning of the EMS.
- Ensuring the management review of DPCs EMS is undertaken on a biennial (2-yearly) basis and signs off on the reported outcomes.
- Documenting observations, conclusions and recommendations for necessary action highlighted in the Management Review.

General Manager Landside Operations

The General Manager Landside Operations is accountable for:

- Ensuring that appropriate emergency preparedness and response plans / manuals are developed, implemented, tested, reviewed and improved.
- Monitoring the implementation of the emergency preparedness and response plans / manuals.
- Providing a debriefing after emergency response in order to assess the:
  - Adequacy and effectiveness of the emergency preparedness and response plans / manuals
  - Adequacy of the response in terms of manpower, equipment, skills and training
  - Level of awareness in the workplace of current procedures, and
  - Future management of the problems identified.
- Providing an investigation after any emergency response in order to assess:

  - The work practices that caused the incident
  - Whether the cause can be eliminated or engineered out
  - Whether improved work practices will prevent recurrence, and
  - The need for improved preparation.
- Ensuring emergency response equipment is maintained and ready for an emergency.

Harbourmaster

The Harbourmaster is accountable for:

- Facilitation of DPC oil spill contingency planning.
- Ensuring DPC's marine oil spill equipment is available and functional at all times.

Other Responsibilities

The Workforce Relations Officer is accountable for ensuring that awareness training modules are developed, maintained and approved commensurate with business needs.

All employees must ensure their respective manager is advised of any concerns regarding DPCs environmental performance, or of any non-conformances with the EMS. The Audit & Risk Management Committee is accountable for arranging the formal DPC.

External auditors are accountable for undertaking EMS audit functions in accordance with the Management System procedure.

Additional responsibilities will be assigned by the Environment Manager as the DPC further develops other EMS components and environmental objectives and targets.

26.2.2 Other Parties

The activities of DPC are limited in terms of their potential environmental impact. Most of the emissions and potential pollutants will be generated from the operations of other users of the expanded EAW components. DPC will partner with the port users to ensure that their operational practices are aligned with the DPC's environmental management policy, EMS and this EMP.

The scope of this EMP includes construction and operational activities at the:

- Barge ramp and hardstand
- Marine supply base (including RLO hardstand and wharf)
- Tug and small vessel berths
- Rail loop

The activities to be undertaken at each project component are described in Chapter 2. The construction contractors and final users are at this stage unknown.

Rig Tender and Barge Operators

It is the responsibility of rig tender and barge operators to ensure compliance with port requirements, including Harbourmaster's directions, relevant port rules and guidelines. A range of international conventions and procedures apply to shipping, including the requirements of the International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978 (MARPOL 73/78), the annexes in force, and the International Maritime Dangerous Goods Code 2004.

Rig tender and barge operators are also responsible for requests and permit applications to DPC with respect to ship arrivals/departures, dangerous cargo declarations and requirements for port service providers.

Third Party Port Service Providers

Third party service providers (tugs, mooring companies, etc.) are generally engaged by shipping agents on behalf of shipping lines. The service provider must ensure they are operating in accordance with their contractual and legislative requirements and applicable DPC licence conditions (Coffey Environments, 2010).

Austral-Asia

The operator of the Adelaide–Darwin railway runs six intermodal freight services a week between Adelaide and Darwin. It also hauls bulk minerals from mines along the railway to the port of Darwin for shipment to Asia, as well as bulk fuel for distributors. The rail line operator transports the cargo and bulk minerals to the wharf, while stevedoring companies handle the cargo and bulk minerals within the EAW area.

Tenants

The tenants of the expanded EAW will likely include:

- Mining companies exporting ore and concentrate.
- Rig Tender operators and other offshore suppliers.
- Quarry operators supplying RLO facility.
- Tug Operators.
- AustralAsia.
- Barge operators.
- Defence.
- Stevedores.

The Terms of Leases for these tenants will vary from short-term to long-term, depending on the company and activity being undertaken. It is the responsibility of tenants to ensure they are operating in accordance with the conditions of their lease and that their activities comply with DPC policies and guidelines and do not result in a breach of planning approvals, the Environment Protection Act, the Occupational Health and Safety Act, the Dangerous Goods Act and other subordinate legislation. This responsibility includes compliance with the Environmental Protection (National Pollutant Inventory) Objective. Leases and operating agreements at EAW are to encompass environmental conditions including adherence to this EMP, and the Coffey Environments (2011) EMP.

26.2.3 Specific Advisory Bodies

Health, Safety and Environment Committee

In addition, the DPC has established the Health, Safety and Environment Committee. This committee is tasked with ensuring DPC's commitment to providing and maintaining a safe, healthy and environmentally responsible worksite. The membership, functions and powers of this committee are identified in its Terms of Reference.

The committee comprises representatives from the DPCs Port Management Group, together with DPC staff experienced in the fields of environmental management, occupational health and safety, and risk management.

Port User Group

The Port User Group is a body established to provide a communication and discussion forum for parties whose operations impact upon the Port of Darwin region.

Darwin Harbour Advisory Committee

The DHAC was originally established in 2002 to develop and review the *Darwin Harbour Regional Plan of Management* and to oversee its implementation. The DHAC is appointed by the Minister for Natural Resources, Environment, The Arts and Sport, and the focus of the committee is the sustainable development and the long term protection of the Darwin Harbour. The purpose of the DHAC is to provide the NTG with advice on planning, development, land use, and use of natural resources within the Darwin Harbour region.

The DHAC has subsequently developed the *Darwin Harbour Strategy* as a replacement for the *Darwin Harbour Regional Plan of Management.* The *Darwin Harbour Strategy* is a comprehensive guide for the responsible stewardship and sustainable development of the Darwin Harbour region. Its purpose is to provide policy and decision makers within government, industry, commerce and the community, with guidance for the integrated management of the Darwin Harbour region.

Darwin Port Advisory Board

The *Darwin Port Corporation Act* provided for the establishment of the Darwin Port Advisory Board. The Advisory Board's role is to provide advice to the DPC on strategic matters referred to it by the CEO. The Advisory Board is made up of not more than seven members appointed by the Minister for Lands and Planning.

Bulk Users Environmental Advisory Committee

The Bulk Users Environmental Advisory Committee has been formed to:

- Oversee the performance of environmental management at the Port of Darwin from the point of arrival of the bulk commodity to loading and departure of ships from wharf.
- Undertake high-level reviews of environmental results and reports.
- Collaboratively discuss and facilitate the management and delivery of solutions to identified issues and the continual improvement of overall environmental performance.

26.2.4 Government Agencies

Australian Maritime Safety Authority (AMSA)

The *Australian Maritime Safety Authority Act 1990 (Commonwealth)* sets out the functions of the Australian Maritime Safety Authority (AMSA). Responsibilities include the protection of the marine environment from ship-sourced pollution. AMSA also has responsibilities under a variety of legislation relating to protection of the marine environment including the *Protection of the Sea (Prevention of Pollution from Ships) Act 1983*.

AMSA administers the *National Plan to Combat Pollution of the Sea by Oil and Other Noxious and Hazardous Substances* and is responsible for coordinating, investigating and cleaning up oil spills of national significance. Under 'Port State Control', AMSA conducts a program of inspections of foreign ships entering Australian ports based on their risk profile. These inspections are carried out to ensure that ships comply with the relevant requirements of the International Maritime Organisation (IMO), including MARPOL 73/78. Should a ship, the qualifications of its crew or shipboard safety management system, be found to not comply with the appropriate requirements, AMSA may require corrective action which can include detention of the ship until satisfactory repairs are carried out, or remedial action is taken.

Australian Quarantine and Inspection Service

The AQIS is the lead federal government agency providing quarantine inspection services for the arrival of international passengers, cargo, mail, animals and plants and their products into Australia. AQIS is responsible for the management of ballast water issues, including monitoring of compliance of shipping with the *Australian Ballast Water Management Requirements (AQIS) 2001* at each first port of call in Australia. These requirements are designed to reduce the risk of introduced harmful aquatic organisms into Australia's marine environment through ship's ballast water. AQIS also inspects and certifies a range of animal and plant products exported from Australia.

Australian Customs and Border Protection Service

The Australian Customs and Border Protection Service (Customs) manage the security and integrity of Australia's borders. The service works closely with other government and international agencies, in particular the Australian Federal Police, the AQIS, the Department of Immigration and Multicultural and Indigenous Affairs and Defence, to detect and deter unlawful movement of goods and people across the border. Customs undertakes a number of activities within the Darwin Port including security checks of all international vessels at EAW.

26.3 Risk Management Approach

The risk management approach undertaken for this DEIS is discussed in detail in chapter 26, but is summarised for the EMP. The approach for the EAW risk assessment is based on the RISQUE method, which is an iterative process based on the ISO/Australia and New Zealand Standard for Risk Management (ISO 31000:2009) framework, shown in Figure 26-1. Risks associated with social, environmental, engineering and economic issues and events were assessed. The main elements of the RISQUE process are:

- Communicate and consult (with stakeholders)
- Establish the context (refer to chapter 2 - project description)
- Identify risks (workshop attended by technical specialists)
- Analyse risks
- Evaluate risks
- Treat risks (mitigation and management measures in EMP)
- Monitor and review

26 Environment Management Plan

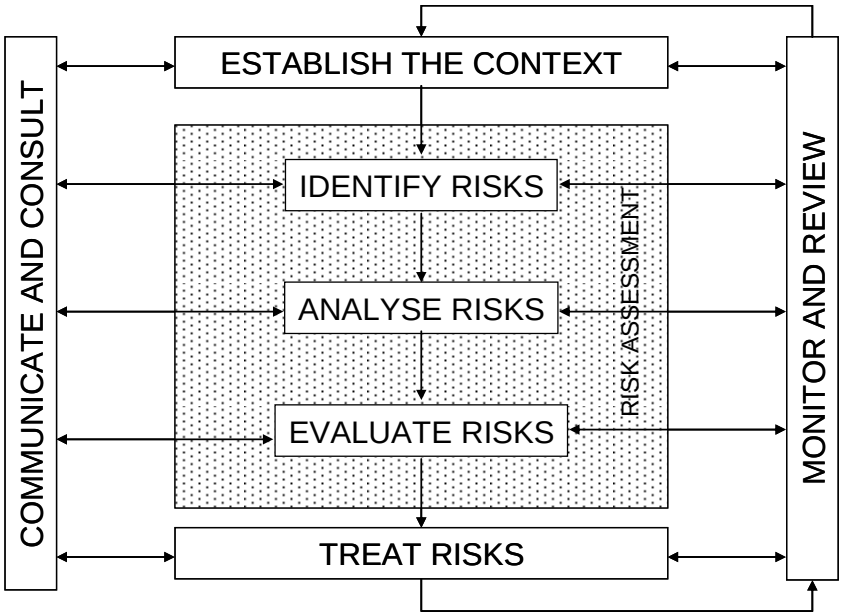


Figure 26-1 Overview of ISO 31000 Risk Management Process

A workshop attended by subject matter specialists was held identify risks associated with the proposed development. A preliminary list of risk events was developed prior to the risk workshop and was built upon during the initial stage of the workshop.

The preliminary list of risks was developed into event trees by establishing cause and effect relationships (an event tree is a diagram that clearly shows the linkages between initiating events and their subsequent impacts and consequences for each risk event).

26.3.1 Estimating Likelihoods and Consequences

Event likelihood was estimated based on the specialist's experience or knowledge of similar types of events, and documented information in the industry and literature (for more common events) or using a 'likelihood guide' (for unusual events).

A 'consequence table' was used to identify and quantify appropriate levels of impact on a range of asset types, resulting from the occurrence of a potential risk event. The key categories of impact in the consequence table include:

- Property and Infrastructure.
- Environment.
- Social.
- Economic.
- Public Health and Safety.

In some situations, it was considered that the event, if it were to occur, would have multiple consequences (for example, excessive noise would have consequences for the local community as well as the environment). In these situations, the consequence values were recorded for each of the categories. These were then summed for each risk issue. For example, a value of 1 for Environment consequences and a value of 10 for Social consequences give a total value of 11 for the total consequence of the risk issue.

26.3.2 Risk Register

The two key outputs from the workshop risk identification process are:

- Events risk register
- Inputs risk register

The events risk register is a list of events that could result in impacts and potential impacts from implementation of the EAW Project. The events risk register shows that 92 risk events were considered for inclusion in the risk assessment, and that ultimately the assessment considered the 36 Priority 1 events in more detail.

The inputs risk register that is provided in **Appendix E** shows the event pathways, likelihoods and consequences that were provided by the subject matter specialists at the workshop. These values were then input directly into the EIA risk model.

After the workshop the participants were provided with copies of the combined risk register (event risk register and inputs risk register) for review and validation. The outcomes of all corrections additions were entered into the risk registers and input to the final risk model.

26.4 Development of Objectives and Targets

The objectives and targets of the EMP for the proposed expansion of EAW have been aligned with those of the existing EAW EMP (Coffey Environments, 2010). The modified process for setting the targets for this EMP, based on the EMP, is as follows:

13. Significant potential environmental impacts were identified and ranked by a workshop, as summarised in Chapter 25).
14. DLP asses which potential impacts warrant inclusion in the EMP, with the setting of an objective and target(s).
15. In setting objectives consideration is given to the following:
    - Potential environmental impacts in the DEIS for the proposed expansion of EAW.
    - Existing EAW EMP (Coffey Environments, 2010).
    - Stakeholder input
    - DPC Environmental Policy.
    - Legislation and regulations as identified in accordance with EMS procedure ‘Legal and Other Requirements’.
    - Business requirements.
    - Operating conditions.
    - Financial and technological options.
16. Objectives are aimed at broad level improvements in environmental performance such as “Develop a waste management plan” and supported by specific performance targets such as “Prepare a plan that addresses all waste streams by September 2010”. Objectives may be addressed by a single target or a number of targets.
17. Targets are qualified wherever practicable in terms of attributes, scale, goal and timeframe.
18. Objectives and targets will be recorded on the existing EAW Issues Register.
19. General Managers are responsible for ensuring the objectives and targets are communicated to relevant employees.

20. The review and re-setting of objectives and targets will be undertaken as required. Objectives and targets will also be reviewed and amended in line with changes to the DPC Environmental Policy, legislation and / or new environmental impacts.

26.5 Management and Implementation

26.5.1 Overview

This management and implementation section is presented by environmental aspect. 13 environmental aspects associated with environmental performance of the proposed expansion of EAW have been identified:

- Systems
- Regulatory compliance.
- Planning.
- Communication.
- Energy and resources.
- Air quality.
- Land and soils.
- Water and marine sediments.
- Flora and fauna.
- Hydrocarbons and hazardous materials.
- Waste management.
- Cargo handling – bulk minerals.
- Cultural Heritage Management Plan
- Social Management Plan

26.5.2 Systems

Objective	To ensure that construction and operation of the proposed development is undertaken in an environmentally sustainable and responsible manner, and that DPC, contractors, tenants, and other site users operates with a high level of environmental performance through continual improvement of the DPC EMS.
Target	Develop and maintain DPC EMS to ISO14001 standard. Contractors and tenants have EMSs. All activities that present an environmental risk are to have documented management procedures (Workplace Instructions, Standard Operating Procedures and Management Plans).
Actions	Maintain and further develop EMS to ensure it reflects current activities. Develop, communicate, implement and review documented procedures (Workplace Instructions, Standard Operating Procedures and Site-Specific Management Plans). These procedures for the EAW will be developed and reside under the framework of this EMP. Integrate EAW Expansion EMS with existing EAW EIS (Coffey Environments, 2010)
Monitoring	Biennial external audit of DPC EMS.
Reporting	Review of EMS performance will be documented in DPC Annual Report.
Corrective Actions	EMS non-conformances (with ISO14001) will require corrective action.

Relevant Legislation and Standards	Refer chapter 1 of DEIS ISO14001

26.5.3 Regulatory Compliance

Objective	To ensure that DPC, contractors, tenants, and other site users comply with all environmental laws, regulations, policies and standards which relate to construction and operation of the proposed development.
Target	Maintain an up to date legislative register for EAW and have this accessible on the DPC intranet, and hard copy available at construction site office/s. Identify any non-compliances with legal and other regulatory requirements that occur at EAW and ensure that these are reflected in the Issues Register and all fields of the register are completed. Maintain an up to date central licence and permit register for all relevant licences and permits. Zero non-compliances with legal and other regulatory requirements in each year.
Actions	Regular reviews of legislative and guidelines and update of the DPC's environmental policy and EMS as required. Maintenance of central licence and permit register. This register is a business wide register system that includes licences and permits that have environmental requirements relevant to DPC and details: • Licensing body. • Approval type e.g. Licence to Discharge Water. • Licence number. • Issue and expiry date. • Licensing body file reference. • DPC central file reference. • Licence fee. • Applicable department.
Monitoring	Implementation and management of a program of regular environmental audits and inspections. Biennial external review of DPC EMS.
Reporting	Compliance / non-conformance with environmental legislation will be documented in DPC Annual Report.
Corrective Actions	The following will require corrective action to comply with this EMP: Non-compliance with relevant legislation and standards
Relevant Legislation and Standards	Refer chapter 1 of DEIS Additional NT Government environmental programs that DPC are required to comply with include: Greening the Fleet. Climate Change Policy. Energy Smart Building Policy.

26.5.4 Planning

Objective	To ensure sustainable environmental development.
Target	Every component of the proposed expansion of EAW is assessed for potential environmental impacts. Site-specific CEMPs are prepared as part of the contractor project proposals, and EMPS are prepared by tenants / operators / major users, and implemented.

	This EMP is integrated into the existing EAW EMP, which is reviewed annually. Planning issues to be captured in Issues Register and addressed.
Actions	CEMPs and site rehabilitation plans are included in contractor proposals for construction of each component of the proposed development. Site-specific operational EMPs are prepared by site tenants and operators. The HSE Committee, Port User Group and the DHAC and Department of Natural Resources Environment the Arts and Sport will be consulted in relation to port infrastructure development. The DPC Procurement Policy requires the inclusion of environmentally responsible practices in the terms of reference and tender assessment criteria for all tenders. Approval of the DPC Port Management Group is required prior to commencement of new activity.
Monitoring	CEMPS and EMPs are reviewed by the DPC Environmental Manager
Reporting	The DPC Environmental Manager will provide recommendations to the DPC General Manager relating to CEMPs and EMPs
Corrective Actions	Proposals which do not include CEMPS will not be considered. Operations at each component of the proposed development will not commence until the relevant site-specific EMP has been approved by the General Manager.
Relevant Legislation and Standards	Refer Chapter 1

26.5.5 Communication Management Plan

Objective	To ensure that all appropriate environmental information relating to the EAW, including the environmental policy and the DPC's progress in meeting its objectives and targets for the proposed development is available, accessible and communicated as appropriate to employees and stakeholders. Inform communities about avoidance of environmental impacts, and environmental mitigation activities. Monitor and respond to community concerns about the project and operations, and implement corrective action resulting from outcomes of investigation of community concerns
Target	DPC Environmental policy to be publicly available via the DPC website. Prepare plan to communicate to all stakeholders: • Potential environmental impacts, with special attention to the Indigenous community. • Objectives and targets of proposed development. • Progress meeting environmental objectives and targets. Monitor and respond to community concerns, and communicate the mechanism by which the public can register concerns or issues associated with the project.
Actions	Weekly and monthly management meetings – DPC, contractors, site operators, tenants. Port Management Group meetings. Monthly departmental meetings. Site induction programme. Project and information meetings. Intranet "Other Stories". Staff meetings. Port User Group meetings. Regular briefings on topical and emerging environmental issues with the Port User Group. Port User Group representation on the DPC HSE committee. Develop communications strategy for construction and operation of proposed

	development to reach broader audience than Port Users, including • Web page • Email address • Telephone number Maritime archaeological work to be part of the communications plan. During construction and operation of the proposed development, the proponent will implement a mechanism by which communities can register concerns or issues associated with the project; these concerns will be appraised and investigated as necessary. The existence of this mechanism will be communicated to communities via signage close to the site, and through other media.
Monitoring	Record complaints and other community feedback
Reporting	Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure. Include summary of community feedback in DPC annual report
Corrective Actions	The following event will require corrective action to comply with the communications management plan: • Community feedback not recorded • Communities not informed about avoidance of environmental impacts, and environmental mitigation activities.
Relevant Legislation and Standards	Refer chapter 1

26.5.6 Energy and Resource Management Plan

Objective	Ensure efficient use of energy and resources during construction and operation of the proposed development, thereby resource consumption and greenhouse gas emissions.
Target	To comply with relevant NTG energy and resource use policies (Northern Territory Climate Change Policy 2009 and NT Government Energy Smart Buildings Policy). All new developments (building and industrial facilities) are to be assessed and incorporate energy efficiency design. Report in accordance with the National Greenhouse and Energy Reporting Act 2007
Actions	DPC and port users minimise consumption of resources through good operational practices, and making environmentally sound choices when procuring new equipment and infrastructure. Recycled construction materials (e.g. rip-rap) to be utilised where possible Contractor proposals to be assessed on energy and resource efficiency Investigate options for increased energy efficiency through the life of operation of the project and during decommissioning.
Monitoring	Energy and water consumption is monitored to determine current usage and efficiency. Developing a continuous improvement program that monitors fuel and electricity use on a monthly basis, and reports on CO_2e emissions per unit production.
Reporting	Report greenhouse gas emissions in compliance with NPI reporting guidelines. Sustainability is addressed in DPC Annual Report.
Corrective Actions	The following event will require corrective action to comply with the communications management plan: • New developments of expanded EAW are not assessed for energy efficiency.
Relevant Legislation and Standards	Northern Territory Climate Change Policy 2009 NT Government Energy Smart Buildings Policy. National Greenhouse and Energy Reporting Act 2007 Energy Smart Buildings Policy

	Australian Greenhouse Office documentation (refer AGO 2006a)

26.5.7 Air Quality and Emissions Management Plan

Objective	To ensure that the construction and operation of the proposed development has a minimal adverse impact on air quality. Adherence to the Monitoring Plan for the Northern Territory as prepared in accordance with the AAQ NEPM.
Target	To comply with relevant regulatory and policy requirements regarding air quality, noise, or visual impact
Actions	Access roads would be sealed as soon as practicable after clearing, and access restricted to open cleared areas, in order to minimise dust emissions from open areas and from vehicle movements. Keeping stockpiles of construction materials on site to a reasonable size, and avoiding multiple handling of material where possible. Water sprays on open areas and stockpiles, water trucks or dust suppression additives will be utilised where necessary Vehicle control measures (e.g. limiting vehicle speeds, limiting movements on unsealed roads, use of water trucks on unsealed roads, and wheel wash areas) Covering of construction material loads on trucks in and out of the construction area to prevent dust releases. Preparation of vegetation and soil erosion control plan incorporating erosion protection measures A dredging and dredge spoil disposal management plan, incorporating mitigation measures for controlling odour and dust releases, particularly from dewatered and stored spoil. Enclosure of dust generating activities where operationally practical and efficient. Implementation of appropriate dust suppression or capture technology where enclosure is not practical. Efficient operation of machinery, equipment and vehicles to minimise exhaust emissions. Clean up of residues and spills in a timely manner. Vehicle inspection and maintenance program for all on site construction vehicles As much naturally occurring vegetation around the proposed development as practicable will be retained Infrastructure will be finished with a matte surface where practicable, to minimise glare Vegetation will not be burnt. Installation of soundproofing and / or noise abatement devices where practicable.
Monitoring	Regular review of the efficiency of air quality and greenhouse gas management measures to ensure implementation of continuous improvement. Monitoring would be undertaken during the construction phase of the project in order to meet key targets. The monitoring activities are stipulated below; these would be incorporated and undertaken as part of the CEMP. Visual inspections of dust deposition on surrounding areas will be undertaken on a periodic basis. Visual inspections will be undertaken during activities likely to cause dust releases (i.e. vegetation clearing, earthworks) to assess the effectiveness of mitigation measures, and need for increased dust suppression. Inspections of dust releases and associated control measures would be conducted on a regular basis. Dust and / or noise monitoring programs will be implemented if material complaints are received. Monitoring of air quality, with sampling undertaken on a quarterly basis at sites on or around EAW, EAW stockpiles, Fort Hill Wharf, Fishermans Wharf and the centre of the harbour.

	Auditing of dust management practices, including review of objectives and targets. External and internal audits of the EMP biennially.
Reporting	Environmental incident reporting including incident investigation and the inclusion of corrective and preventative actions. Results of the dust and noise management and monitoring program will be documented in DPC's annual report. Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure. Where an incident causing pollution occurs the EPA will be informed within 24 hrs, as per the *Waste Management and Pollution Control Act*.
Corrective Actions	An incident-reporting and complaint handling mechanism would be incorporated within the CEMP for dust incidents to be monitored and logged, and corrective and / or preventative actions to be implemented. Response mechanisms may be in the form of: • Increased level of application of existing dust suppression management controls. • An increase in the monitoring and inspections required. • Dust monitoring at the site boundary, using dust measurement instruments where appropriate. • A review and update of procedures or plans associated with dust management practice. • Training for on site personnel on avoiding, minimising and controlling dust releases. Audit findings could result in recommended corrective action measures such as: • Updating plans and associated documentation to reflect changes to dust management practices. • Alteration or inclusion of training practices for on-site personnel in practices for avoiding, minimising and controlling releases of dust. • Seeking additional resources to assist in achieving the CEMP objectives in relation to dust.
Relevant Legislation and Standards	Soil Conservation and Land Utilisation Act Waste Management and Pollution Control Act AAQ NEPM National Environment Protection (Air Toxics) Measure State Environment Protection Policy (Air Quality Management) (Victoria). NOHSC:1003 Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment. AS 1055.1 1997 – Acoustics – Description and measurement of environmental noise

26.5.8 Land and Soils Management Plan

Objective	To ensure that the development and operation at EAW has a minimal impact on land and soils thereby preventing contamination and pollution.
Target	Comply with National Environmental Protection Council (Assessment of Site Contamination) Measure. Comply with the Waste Management and Pollution Control Act.
Actions	Focus on the prevention and management of wastes and discharges to land to prevent land contamination. Land that is contaminated shall be cleaned up or actively managed to mitigate environmental harm. Land that is known to be contaminated shall be actively managed to prevent adverse impacts. Where land has been cleared and is no longer required, stabilisation of surface soils will be undertaken through methods such as rehabilitation. Regular review of the efficiency of land and soil management measures to ensure

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	implementation of continuous improvement. PASS sediments to remain buried or submerged where they cannot oxidise and form acid.
Monitoring	Contamination from poor handling, storage and spillage of chemicals, oils, fuels, bulk metal ores, sewage and other wastes. Erosion of unsealed, or exposed areas.
Reporting	Environmental incident reporting including incident investigation and the inclusion of corrective and preventative actions. Where an incident causing pollution occurs the EPA will be informed within 24 hrs, as per the *Waste Management and Pollution Control Act*.
Corrective Actions	The following event will require corrective action to comply with the land and soils management plan: • Soil contamination occurs
Relevant Legislation and Standards	National Environmental Protection Council (Assessment of Site Contamination) Measure Waste Management and Pollution Control Act.

26.5.9 Water and Marine Sediments Management Plan

Objective	To ensure that the construction and operation of the proposed development minimises consumption of freshwater, has minimal adverse impact on the surrounding water quality and prevents pollution of surrounding waters and marine sediments.
Target	The first flush of stormwater will be captured and treated prior to discharge Comply with relevant regulations and adopted guidelines including: – Marine Pollution Act. – Waste Management and Pollution Control Act. – Water Act – Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000). Develop a site specific construction and operational Stormwater Management Plans for each component of the proposed development.
Actions	Storing oils, hydrocarbons and other hazardous materials in designated locations with specific measures to prevent leakage and release of their contents, on an impermeable base. Engineer water pollution retention ponds to mitigate seepage to groundwater. Reduce or eliminate rainfall infiltration to storage stockpiles in unsealed hardstand areas. Storing oils, hydrocarbons and other hazardous materials in designated locations with specific measures to prevent leakage and release of their contents, including the location of the storage areas away from surface water drains, and on an impermeable base that has no outflow and is of adequate capacity to contain more than 100% of the contents. Minimising the amount of run-off entering oily wastewater and wastewater treatment systems through appropriate grading, drainage designs and other means. Provision of spill response equipment to contain and clean-up spills. Installing and maintaining waste management structures appropriately around the maintenance workshop, vehicle washdown bays, refuelling depots. Waste management structures may include, but are not limited to: protective bunding, skimmers, silt traps, fuel and oil traps, drains and sealed collection sumps. These measures could be used to recover spills, and allow treatment to remove contaminants within impervious containment structure prior to discharge. Installing and maintaining sediment retention ponds, vegetated buffer strips or other effective measures at all potential off-site stormwater discharge points. Controlling overland drainage to prevent channelling and sediment transport by

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	diverting flows away from areas that are exposed. Collecting all stormwater from areas through surface drainage channels and directing them into sedimentation structures before flowing off-site. Designing and implementing sediment control measures within drainage lines downstream of active work areas and other disturbance areas. Implementation of appropriate spill cleanup procedures and plans. In addition to clean up of spills, implement procedures to ensure general clean ups are undertaken and that catchment areas are kept free of contaminants. Where land has been cleared and is no longer required, stabilisation of surface soils will be undertaken through methods such as rehabilitation. Implementation of stormwater contaminant capture such as gross pollutant traps. Development and implementation of the stormwater management plans. Integrated interim measures into design of the drainage system for the proposed EAW expansion: Diversion of the stormwater drain from the wharf ship loader area. Diversion of the hardstand catchment east of bulk loader to Pond F. Developing a “cut off drain” along the wharf berth in front on the Bulk Loader.
Monitoring	Regular review of potable water use efficiency and implementation of water saving initiatives where practical. Regular review of the efficiency of water management measures to ensure implementation of continuous improvement. Drilling, logging and installation of groundwater monitoring bores. Surface water monitoring program monitoring both sediment and water quality, located at collection points throughout the surface water management system.
Reporting	Annual water quality reporting on monitoring performance aligned to existing and future construction and operational EMPs. Any complaints will be documented in and managed through to resolution via DPC’s incident reporting procedure.
Corrective Actions	The following event will require corrective action to comply with the land and soils management plan: • Water or marine Sediments contamination occurs
Relevant Legislation and Standards	Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000) Darwin Harbour Strategy (DHAC,2010) DPC Environmental Management Plan Draft Stormwater Management Strategy for the Darwin Harbour Catchment Marine Pollution Act Waste Management and Pollution Control Act. Water Quality Objectives for the Darwin Harbour Region Water Act.

26.5.10 Flora and Fauna Management Plan

Objectives and Targets	To ensure that the EAW does not have an adverse impact on native flora and fauna and is kept free of declared noxious weeds and that feral plant species and animal species are controlled. To ensure programs are in place to adequately manage non-native “pest” flora and fauna.
Actions	Clearing will be undertaken in accordance with the requirements of the Land Clearing Guidelines (NRETAS, 2010b). Implement appropriate air quality, noise and vibration, land and soils and water management measures. Implement a management program to identify and control pest species present in the EAW area (e.g., rodents, cats and cane toads). Implement a Weed Management program to minimise the importation and spread of

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	weeds. Manage local populations of *Cycas armstrongii* in accordance with the management program for Cycads in the Northern Territory (Liddle, 2009). Comply with AQIS requirements to prevent and control introduced marine pest species. Use the quarantine wash bay facility for cleaning of imported items as required. Enhance the habitat for native flora and fauna where possible. Implement measures to minimise potential impacts on migratory shorebirds and their habitats. Such as: • Minimise disturbance to mangrove, salt pan/saline flats and tidal mudflat areas, including sedimentation and other indirect impacts. • Inclusion of buffer zones to significant mangrove and marine habitats, and any other habitats where possible. • Protection of high tide roost sites and provision of additional high tide roost sites where possible. • Controls on activities or facilities that might disturb feeding and roosting birds (e.g. noise, nocturnal lighting). • Undertake significant works in the vicinity of areas where migratory shorebirds in the dry season when most northern hemisphere migrants are absent (May – August). • Continue to restrict access to the public and animals (dogs) to areas where migratory shorebirds roost and feed. Progressively rehabilitate areas that are disturbed during construction activities or no longer required with due consideration of the requirements of fauna species that will potentially recolonise these areas.
Monitoring	Expand existing shorebirds and wetland birds monitoring program within the EAW to include the saline flats/tidal mudflats within Area 1 and Area 3/4. Develop a flora and fauna monitoring program. Implement a regular program of inspections to identify weed and pest species present in the EAW management area. Support the marine pest surveys undertaken by the Aquatic Biosecurity section of the Department of Resources (Fisheries) and ensure the results are used in the review of flora and fauna management measures.
Reporting	Regular review of the efficiency of flora and fauna management measures to ensure implementation of continuous improvement. Reporting all environmental incidents (including pest incursions). Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure.
Corrective Actions	The following will require corrective action to comply with the Flora and Fauna EMP: • unauthorised disturbance of vegetation outside designated areas. • flora and fauna deaths. • identification of pest and weed incursions. • rehabilitation failure.
Relevant Legislation and Standards	DPC Environmental Policy, Environmental Management Plan Northern Territory *Parks and Wildlife Conservation Act 2000* Commonwealth *Environment Protection and Biodiversity Act 1999* Northern Territory *Weeds Management Act 2001* Northern Territory *Soil Conservation and Land Utilisation Act 1996* Land Clearing Guidelines (NRETAS, 2010b). Management program for Cycads in the Northern Territory (Liddle, 2009)

26.5.11 Biting Insect Management Plan

Objectives and Targets	To prevent increases in the number of mosquito breeding sites as a result of proposed expansions. To prevent the transmission of mosquito-borne diseases as result of proposed expansion. To prevent the increase of biting insect species. To rectify (wherever possible) existing mosquito breeding sites created by previous development.
Key Performance Indicators	No increase in the area of mosquito breeding habitat. No complaints from workers and the general community in relation to biting insects.
Actions	Staff and contractors will be made aware of the potential risk of mosquito borne diseases and the high risk periods (late dry to wet season). Staff and contractors will be advised to wear long sleeved shirts and trousers, avoid going outside at sundown, and to use insect repellent. Insect repellent will be provided at work sites. Workers will be educated about the early symptoms associated with exposure to mosquito–borne arbovirus and will be instructed on the need to report any symptoms to a Medical Officer. Management strategies for the prevention of mosquito breeding sites associated with the proposed expansion works will be in accordance with: Recommendations made by Medical Entomology in support of this assessment. Construction practice near tidal areas in the Northern Territory - Guidelines to prevent mosquito breeding (Medical Entomology, 2009). Guidelines for preventing biting insect problems for urban residential developments or subdivisions in the Top End of the Northern Territory (Medical Entomology, 2009). Constructed Wetlands in the Northern Territory – Guidelines to prevent mosquito breeding (Warchot and Whelan, 2008c). Landholders will be responsible for identifying wet season ponding areas for rectification, and maintaining stormwater drains and sediment ponds to prevent mosquito breeding. Landholders will also be required to regularly inspect rainwater tanks and sites for unwanted artificial receptacles that could act as breeding sites for exotic dengue carrying mosquitoes. Any receptacle that has the potential to pond water will be appropriately disposed of, stored under cover away from rain, fitted with drainage holes or treated with an appropriate larvicide, to prevent endemic mosquito breeding. Investigations will be made into the feasibility of using industrial lots as biting midge buffers, to minimise the number of people working in the worst areas for biting midges, by promoting larger lot sizes and land uses such as storage or other activity that results in most of the lots being maintained free of vegetation, adjacent to mangroves. A notification will be included on titles mentioning the high biting midge pest problems that occur at the East Arm Port Area and adjacent areas between the wharf and Hudson Creek east of Berrimah Rd. Disturbed areas will be rehabilitated in a manner that prevents the creation of new mosquito breeding sites.
Monitoring	Landholders will be responsible for • Identifying wet season ponding areas for rectification. • Inspecting stormwater drains and sediment ponds. • Inspecting rainwater tanks and sites for unwanted artificial receptacles that could act as breeding sites for mosquitoes. Routine mosquito trapping is undertaken by AQIS at EAW (Medical Entomology, 2010). Any complaints will be documented in and managed through to resolution via DPC's

	incident reporting procedure.
Reporting	The results of routine mosquito trapping undertaken by AQIS at EAW are reported in the Annual Report prepared by Entomology.
Corrective Actions	The following will require corrective action to comply with the Biting Insects EMP: • creation of mosquito breeding sites during construction and operation of the expanded areas of EAW. • significant incidences of mosquito or biting midge bites are reported. • confirmed infection of mosquito-borne diseases.
Relevant Legislation and Standards	DPC Environmental Policy, Environmental Management Plan Northern Territory *Public Health Act 1952* Northern Territory *Public Health (General Sanitation, Mosquito Prevention, Rat Exclusion and Prevention) Regulations 2007* Northern Territory *Workplace Health and Safety Act 2009* International Health Regulations 2005 (second edition), World Health Organisation Construction Practice Near Tidal Areas in the Northern Territory - Guidelines to Prevent Mosquito Breeding (Medical Entomology, 2009) Guidelines for Preventing Biting Insect Problems for Urban Residential Developments or Subdivisions in the Top End of the Northern Territory (Medical Entomology, 2009) Constructed Wetlands in the Northern Territory – Guidelines to Prevent Mosquito Breeding Northern Territory (Warchot and Whelan, 2008) Biting Midges or Sandflies in the Northern Territory (Whelan, 2003) Personal Protection from Mosquitoes and Biting Midges in the Northern Territory (Whelan, 2009).

26.5.12 Hydrocarbons and Hazardous Materials Management Plan

Objective	To ensure that the risk of an oil spill within the EAW precinct is minimised or eliminated. To ensure the safe handling and storage of hazardous materials within the EAW precinct.
Target	Spills of oil, other hydrocarbons and hazardous materials are to be reported (as required) and cleaned up immediately. Risk of spills of oil, other hydrocarbons and hazardous materials are to be minimised to the maximum extent practicably. Adequate oil spill response equipment and preparedness for the oil spill potential that exists.
Actions	To ensure tanks and hazardous material storage areas are appropriately bunded and covered. To ensure that spill response procedures are in place and the spill clean-up/containment equipment is maintained. Refuelling infrastructure to be bunded and covered.
Monitoring	The harbourmaster is responsible for facilitation of oil spill contingency planning and ensuring marine oil spill equipment is available and functional at all times. Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure.
Reporting	Reporting all environmental incidents (including pest incursions). Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure. All spills (and other environmental incidents) to be reported in the DPC's Annual Report.
Corrective Actions	The following will require corrective action to comply with the Biting Insects EMP: • Hydrocarbon / hazardous material spill

	• Inappropriate hydrocarbon / hazardous material transport.
Relevant Legislation and Standards	Marine pollution Act (NT) NT Oil Spill Contingency Plan Waste Management and Pollution Control Act

26.5.13 Waste Management Plan

Objective	To ensure that the DPC adopts and implements waste management principles that are environmentally responsible and limit the amount of waste produced.
Target	• Recycling facilities and systems in place to allow the separation and recycling of materials (including, paper, cardboard, drink containers, scrap metal, waste oil, lead acid batteries and printer cartridges). • Manage quarantine waste in accordance with AQIS requirements. • Manage general waste to prevent litter, odour and pest infestations. • All waste disposed of to licensed facility.
Actions	All dredged spoil is proposed to be disposed of offsite, in accordance with a draft DMP A WMP will be prepared by DPC / Contractor for each project component. The site-specific CEMP for each component will address construction waste flows and their disposal / recycling in accordance with the EAW EMP The construction WMPs and project component specific EMPs will detail: • Responsibilities for waste management, collection, disposal, and documentation. • All chemicals, including fuels, to be stored and / or used on the project site. • Proposed methods for transportation, storage and use of chemicals. • All government approvals and agreements required and obtained for all waste disposal and management matters. Skips will be provided at the tug berths and MSB for miscellaneous domestic waste generated by small vessels or offshore supply vessels, respectively. Waste receptacles will allow separation and recycling of materials. Quarantine waste will be managed in accordance with AQIS requirements. Manage general waste to prevent litter, odour and pest infestations. Site specific EMPs will address waste management measures for each project component. All solid waste generated during construction and operation of the proposed development will be disposed of at a licensed waste disposal facility. Each construction laydown will have a dedicated storage area for fuels, lubricants, and small quantities of other hazardous materials. Security fencing and lockable doors will be installed at the MSB and barge ramp hardstand to prevent misuse of any goods and materials stored within. The MSB fuel supply area and barge ramp hardstand will be paved, bunded, and graded away from the harbour to an oil separator. MSB refuelling and rig tender sewage transfer infrastructure will be covered and bunded. Enclosure and regular removal of wastes to avoid creation of habitat and sources of attraction for pest species. Implementation of an active program of recycling for office paper and cardboard, plastics, glass, batteries and scrap metal. Implementation of responsible handling and storage procedures for wastes such as waste oil until collected by a licensed waste transporter for removal and recycling.
Monitoring	Regular review of the efficiency of waste management measures to ensure implementation of continuous improvement.
Reporting	Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure.

Corrective Actions	The following will require corrective action to comply with the waste management plan: Management / disposal of waste which causes an environmental nuisance
Relevant Legislation and Standards	Marine Pollution Act Workplace Health and Safety Regulations Waste Management and Pollution Control Act.

26.5.14 Cargo Handling – Bulk Minerals Management Plan

Objective	Handling (import/export) of bulk minerals is to be conducted in accordance with legal requirements and so emissions do not adversely impact the environment.
Target	Handling of bulk minerals are to be conducted in accordance with this EMP, relevant individual Environment Management Plans for that product, NT Legislation, Operating Agreements and DPC requirements.
Actions	The bulk mineral facilities (ship loader rail dump) must not be operated until: • Clean up of the previous user has been completed. • Facilities have been accepted in a sufficiently clean state (internal and external). • All emission and capture devices have been returned to their “in use position” (i.e. covers closed, tarpaulins strapped closed, gallery louvers closed, spill trays and collection bins are in place and bund outlets closed). • All dust emission equipment such as dust suppression sprays, return belt wetting sprays, dust extractors, scrapers are operating and functioning correctly. Bulk mineral loading may occur without this equipment operating in the event where it is not required due to saturated product or other circumstances provided environmental performance remains satisfactorily.
Monitoring	• Regular testing of surface and marine waters for sediment and chemical contamination
Reporting	Any complaints will be documented in and managed through to resolution via DPC’s incident reporting procedure.
Corrective Actions	The following will require corrective action to comply with the waste management plan: • Bulk handling activities cause environmental nuisance
Relevant Legislation and Standards	Marine Pollution Act Workplace Health and Safety Regulations Waste Management and Pollution Control Act.

26.5.15 Cultural Heritage Management Plan

Objective	Protect and preserve cultural heritage where practicable, and document that which must be disturbed
Target	Limited damage to cultural heritage and mangrove environments. Obtain further data to inform future management and conservation decisions through archaeological investigation of shell deposits and stone tool technologies.
Actions	Further communications with Indigenous community regarding the mangrove environments on the northern side of East Arm and their possible conservation. CEMPs to incorporate cultural heritage management plan, including recommendations, details, and the conservation steps to be taken in regards of the Indigenous, historic, and maritime cultural heritage places and features as identified in the DEIS. Should the proposed EAW expansion impact on the Indigenous archaeological site identified in the DEIS (Indigenous Site 1), the following archaeological mitigation works will be implemented with the general disturbance approval: • Excavation and recording of shell deposits and scatters.

	• Collection and submission of samples for radiocarbon determinations. • Collection and metrical analysis of a reasonable sample of the stone artefact assemblages to investigate stone artefact technology issues and residential mobility patterns. • Establish a protective buffer zone around each site of 100 m until Ministerial approval has been sought for the disturbance of these sites and mitigation works have been conducted. CEMP for railway loop to reference and provide maps of WWII dump sites to north of rail line. Establish warning moorings at the location of the wreck sites in as per DEIS for the duration of the construction. A no-go zone is enforced for all maritime traffic around the wreck sites with no anchorage and no works to be conducted in those areas. Maritime archaeologists to undertake a photo record of wreck sites and establish monitoring points to assess any impacts from the construction at the end of construction, as per DEIS. Prior to construction a program of maritime archaeological documentation of the unknown shipwreck is to be undertaken by a maritime archaeologist. The shipwreck will be identified, documented and mapped. The communications plan should reference cultural heritage places.
Monitoring	Internal audit by DPC Environment Manager or representative
Reporting	Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure.
Corrective Actions	The following will require corrective action to comply with the cultural heritage management plan: • Disturbance to sites not in accordance with cultural heritage management plan
Relevant Legislation and Standards	Native Title Act 1993 Aboriginal and Torres Strait Islander Heritage Protection Act 1984 Environment Protection and Biodiversity Conservation Act 1999 Historic Shipwrecks Act 1976 Heritage Conservation Act 1991 Northern Territory Aboriginal Sacred Sites Act 1989 ALRA

26.6 Social Management Plan

Objective	Establish and maintain awareness of the importance of social environment impacts and incorporate management measures into project activities and operations.
Target	Prevent adverse social environment impacts from the project activities and facilitate local benefits, such as employment and other economic opportunities.
Actions	The proponent will promote local content, revenue generation and skills development, as well as participation by indigenous people in the project, in the construction contracts to be used for the project. The contracts will seek to ensure maximisation of: • local goods and services • local business services • use of local suppliers, and • use of local construction materials. The proponent will work with other government agencies to ensure that their planning is informed by EAW activities. The proponent will specify that contractors develop a strategy to minimise impacts on existing housing stock, including prioritising local employment.
Monitoring	The proponent will undertake monitoring and evaluation of employment strategies, by

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	requiring that contractors include a monitoring and reporting mechanism. The proponent will monitor and respond to community concerns, and communicate the mechanism by which the public can register concerns or issues associated with the project.
Reporting	Any complaints will be documented in and managed through to resolution via DPC's incident reporting procedure.
Corrective Actions	The following will require corrective action to comply with the cultural heritage management plan: • Main EPC contractors haven't developed strategy to minimise impact on existing housing stock. • Contractors / operations lack management measures for community health and safety.
Relevant Legislation and Standards	Land Rights Act

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