

***Australian Marine  
Complex  
Common User Facility***

***Environmental  
Management Plan for  
Operations***

September 2006



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## EMP AMENDMENTS

Amendment No.	Date	Section	Approved By	Signature
Rev E Jane Taylor ModuSpec (Perth) Pty Ltd	September 2006	All Sections		

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## Executive Summary

The Common User Facility (CUF) of the Australian Marine Complex has been constructed to facilitate further industry participation in Western Australia's oil and gas, minerals, defence and marine service sectors.

Effective operation of the Fabrication Precinct will require shared responsibilities for environmental management between the Facility Manager and Users of the Facility.

Each User will prepare an **Environmental Compliance Plan** to comply with the requirements of the Australian Marine Complex, Common User Facility, Environmental Management Plan for Operations (hereafter referred to as the Facility Manager's EMP), their own User Environmental Management Plan (where they are required to have one), current applicable legislation and Government commitments for the facility.

Each User of the CUF will be required to comply with their Environmental Compliance Plan. Two types of Plans will exist depending upon the User activities and the level of environmental risk:

- For previously identified User Activities, the Environmental Compliance Plan will be based upon the management actions and control procedures specified in this document.
- Where the User is considering an additional, modified or new User Activity not covered by the existing scope of operations for the Common User Facility set out in the Facility Manager's EMP and supporting documentation, then a separate environmental risk assessment needs to be undertaken. If very low or low environmental risks are identified, the User management actions required to be taken will be based upon the environmental administrative and control procedures specified for these risk levels in this document. If such an assessment recognises a moderate or high risk, LandCorp or the Facility Manager will be advised. The User will prepare a User Environmental Management Plan. From the identified environmental impacts, appropriate management actions and environmental control procedures will be adopted..

This Facility Manager's Environmental Management Plan relates only to those overarching environmental responsibilities of the Facility Manager for the Common User Facility. The User's Environmental Compliance Plan must include all requirements of the Facility Manager's Environmental Management Plan where these are relevant to the User's activities.

The key environmental aspects that have been identified for the Operations of the Australian Marine Complex, Common User Facility are based on:

- activities likely to occur at the site;
- activities likely to have an impact on the CUF in general; and therefore
- activities likely to affect multiple users.

The key environmental aspects are:

- spill management (i.e.: from oil or chemical spill, hose ruptures or tank overflows, and cargo handling);
- tributyltin (TBT) management;
- spray painting
- ballast water management;

- dust management;
- noise management;
- litter management;
- ship sewage disposal; and
- ship garbage disposal.

These environmental aspects are tabled in Environmental Administrative Procedure (EAP), EAP005 'Significant Environmental Impacts, which outline the level of environmental risk and the appropriate control requirements.

The assessment of the significant environmental impacts and the control procedures required to manage them should be updated as information is provided for on site operations specific to individual user requirements.

The management action response to the removal of tributyltin antifouling paint from vessels is in the form of work practices described in the TBT Management Plan. Spill management response for major oil spills into the marine environment is set out in the Facility Environmental Emergency Response Plan.

Environmental Control Procedures (ECP) outline the minimum environmental controls to be implemented for each environmental aspect having the potential to cause significant environmental impact for likely operations at the CUF. Each ECP outlines the issue, the basic management approach, relevant legislation and policies, and details of the associated monitoring and assessment, including key performance indicators (KPIs). If the management approaches described in the ECP do not deliver the stated objectives; the ECP will need to be revised accordingly.

# 1. Introduction

## 1.1 Background

The Common User Facility (CUF) of the Australian Marine Complex, Fabrication Precinct has been constructed to facilitate further industry participation in Western Australia's oil and gas, minerals, defence and marine service sectors. The construction of the Fabrication Precinct has consisted of:

- reclamation of waterfront land for construction of berths, wharves and onshore fabrication areas;
- construction of offshore breakwaters to provide wave protection;
- dredging an approach channel to the Southern Harbour, the harbour basin and extending the channel to the Medina Channel;
- clearing and excavation of land adjacent to the harbour to provide common use leasehold and freehold lots for industry development; and
- realignment of Cockburn Road into the designated Fremantle Rockingham reservation.

The development is designed to be used for repair, maintenance and construction of infrastructure for offshore oil and gas production, onshore resource projects, plus a broad range of world-class marine services.

The Australian Marine Complex comprises four adjoining precincts (Figure 1.2):

- Ship Building Precinct, including a Marine Support Facility;
- Support Industry Precinct;
- Fabrication Precinct including the CUF; and
- Technology Precinct.

A referral of this proposal was submitted to the Environmental Protection Authority (EPA) in February 1997 by the then Department of Commerce and Trade. From this referral, the EPA determined the proposal would be assessed as a Public Environmental Review (PER) under Part IV of the *Environmental Protection Act 1986*. The PER document, *Industrial Infrastructure and Harbour Development, Jervoise Bay* (Halpern Glick Maunsell, 1997) was made available for a public review. The project was approved to proceed by the Minister for Environment in December 1998, subject to conditions required by the EPA's *Environmental Assessment Report* (Bulletin 908, October 1998) and the *Statement of Ministerial Conditions No. 490*, as well as the proponent's own commitments outlined in the PER. Included in these conditions is the requirement for the preparation of an Environmental Management Plan for Pre-construction, Construction and Operational Phases of the project.

The construction of harbour infrastructure consisting of harbour basin, access channel, and breakwaters was completed in March 2002. Interim operations of the smaller wharf area commenced in October 2002 with full completion of wharves and the development of the industrial estate area occurring in mid January 2003. Following the completion of the On-Site Facilities at the end of June 2003, the Fabrication Precinct commenced the full Operations Phase of the project.

The market profile for Common User Facility business for the three (3) year period 2003 through 2006 is represented by number of leases and revenue, according to various market sectors, as shown in the adjacent chart (Figure 1.1)

The chart indicates the predominance of the Defence Sector as a result of the recent ANZAC Class Frigate upgrades and the MV Delos conversion to HMAS Sirius (Westralia replacement) by Tenix. This trend in defence work is expected to continue through 2006 and beyond.

The Oil & Gas and Resource Sectors continue to play significant roles in the usage of the Common User Facility.

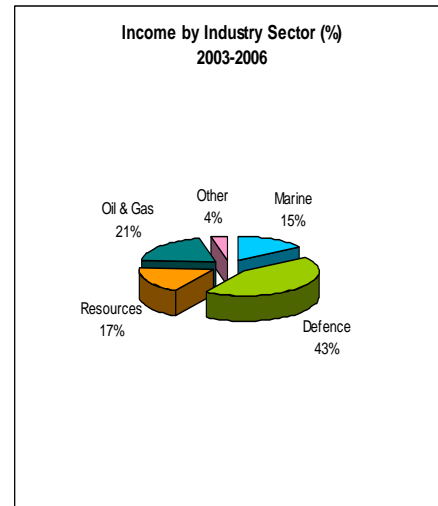


Figure 1.1 Market Profile –  
Common User Facility, 2006

Effective operation of the CUF requires shared responsibilities for environmental management between the CUF Facility Manager and Users of the Facility. Each User is required to prepare an Environmental Compliance Plan to meet the requirements of this EMP, the Fabrication Precinct EMP, the User's EMP (where appropriate), current applicable legislation and Government commitments for the facility.

## 1.2 Purpose and Scope of Environmental Management Plan

This Environmental Management Plan (the Facility Manager's) covers known identified activities associated with the Operational Phase of the CUF of the Fabrication Precinct. The purpose of the EMP is to assist LandCorp, the Facility Manager and the Users to meet the overall environmental objectives of the Operational Phase of the project. A draft of this Plan has been reviewed by the Facility Manager and submitted to LandCorp for the Department of Environment approval (per Appendix F) in August 2003.

## 1.3 Common User Facility Operations

The Fabrication Precinct comprises the Common User Facility and the Fabricator's Area (see Figure 1.2). The Common User Facility provides for multi-purpose fabrication, assembly and load out work and is suitable for multiple, overlapping projects providing the following facilities:

- fully protected, accessible waterfront with a load out wharf and a marine service wharf with load out capability;
- two berths for fit-out and refit of large vessels;
- 300 tonne wharf crane;
- deep approach channel (depth 10m) and Southern Harbour basin (dredged to a minimum depth of 10 metres with one 11 metre pocket adjacent to the load out wharf and one 12.7 metre pocket adjacent to the marine service wharf), suitable for heavy lift vessels, semi submersible barges and drill rigs;
- fully serviced, 40 hectare common user module fabrication and assembly area;
- sophisticated mobile module assembly hall (80 m x 60m x 30m) for flexibility in fabrication, assembly and load-out;

- extensive portal and gantry crane systems; and
- administrative support, project management offices and amenities, trade shops and workshops.

The facility is equipped to undertake the following:

- oil and gas, mining and minerals related fabrication, repair and maintenance;
- ship upgrade/modification/conversion, repair and maintenance;
- hull and superstructure module construction for shipbuilding;
- mineral and hydrocarbon downstream processing related fabrication, repair and maintenance;
- heavy manufacturing related fabrication, repair and maintenance; and
- oversize/overweight equipment fabrication and assembly.

Figure 1.2 Site Plan of Australian Marine Complex, Cockburn Sound



## 2. Environmental Policy and Planning

### 2.1 Environmental Policy

The Facility Manager's (AMC Management (WA) Pty Ltd) environmental policy statement setting out the overarching environmental objectives for the Common User Facility is included in Appendix A of this document. The policy must be:

- communicated to all employees at induction;
- communicated to all Users in the Access phase and subsequent operations; and
- prominently displayed in the Facility Manager's Offices.

The policy provides the objectives for environmental management planning for the Facility Manager, and in turn the Users.

The purpose of Facility Manager's Environmental Management Plan is to ensure environmental aspects associated with site activities are appropriately managed on an ongoing basis.

### 2.2 Environmental Management Planning

#### 2.2.1 Facility Manager - Environmental Management

The Facility Manager will identify and prioritise; environmental actions arising from this Environmental Management Plan, all other conditions and commitments for operating the Common User Facility, all in line with ISO14001 (see below). These actions will form the basis of an annual Environmental Action Plan for the Facility Manager. The annual Environmental Action Plan provides the key mechanism for implementing the Facility Manager's environmental policy and Environmental Management Plan and for managing environmental aspects at the Common User Facility on an ongoing and continuous improvement basis, in line with ISO14001 (International Standard – Environmental Management Systems).

The environmental aspects identified in the Facility Manager's Environmental Management Plan are based on LandCorp's *Environmental Management Plan for Operations of Australian Marine Complex, Fabrication Precinct* (Parsons Brinckerhoff, 2003). It sets out **Four Management Programs covering:**

- Water Quality
- Sediment Quality & Erosion
- Dust Management
- Public Safety

The implementation of the Management Programs are primarily the responsibility of LandCorp. However, they do contain a number of management actions which are the responsibility of the Facility Manager, and may require some implementation by the Users. These are set out in Appendix G to this document.

In addition to the above Management Programs a number of **Operational Management Plans** have been developed for the Fabrication Precinct overall and these are shown in Figure 2.1. The Operational Plans which are the full responsibility of the Facility Manager are:

- This EMP – Australian Marine Complex, Common User Facility Environmental Management Plan for Operations
- Facility Environmental Emergency Response Plan (FEERP); and
- TBT Management Plan.

The last two plans are operational management plans to manage the environmental aspects of major marine oil spills and TBT scrapings from vessels and hull washing.

### **2.2.2 Users' Environmental Compliance Plans**

The Users will be required to develop and comply with an Environmental Compliance Plan. There will be two types of User Environmental Compliance Plans depending upon the User's activities.

- For User's whose activities are covered by the existing scope of operations and environmental aspects identified in the Facility Manager's Environmental Management Plan (this document) and supporting plans and procedures, their Environmental Compliance Plan will be based upon the management actions and control procedures specified in this document and supporting plans and procedures.
- Where the User is considering an additional, modified or new User Activity not covered in this document and supporting plans and procedures, a separate measured environmental risk assessment must be undertaken. If very low or low environmental risks are identified, the management actions will be based upon the environmental administrative and control procedures specified for these risk levels in this EMP and the proponent's EMP. If such an assessment recognises a moderate or high risk, LandCorp or the Facility Manager will be advised. The User will prepare a User Environmental Management Plan. From the identified environmental impacts, appropriate management actions and environmental control procedures will be adopted.

The environmental aspects covered in the Facility Manager's Environmental Management Plan are those likely to be encountered on a general basis at the Common User Facility and are likely to impact multiple users. The User Environmental Compliance Plans will need to cover activity specific environmental aspects, as well as the aspects already identified in the Facility Manager's Environmental Management Plan.

The Users must also comply with all conditions and arrangements for site access defined in the "Access" arrangements set down and managed by the Facility Manager, and these commence immediately upon access to the Common User Facility.

## 2.3 Identified Environmental Aspects

The following key environmental aspects that have been identified are based on likely activities that will occur at the site and include:

- spill management (i.e. from oil or chemical spill, hose ruptures or tank overflows, and cargo handling);
- hull cleaning maintenance and tributyltin (TBT) management;
- spray painting
- dust management;
- ballast water management;
- noise management;
- litter management;
- ship sewage disposal; and
- Ship garbage disposal.

These environmental aspects are tabled in Environmental Administrative Procedure, EAP005 'Significant Environmental Impacts' (Appendix B) and in Table 2.1 which outline the level of environmental risk and the appropriate control requirements. They are based upon the prioritised risk aspects identified for the Common User Facility in the Facility Manager's Environmental Management Plan (this document). The appropriate management action involves the implementation of the relevant Operational Management Plan and/or Environmental Control Procedure. The assessment of the impacts and the control procedures required may be updated as information is provided for on site operations.

Environmental Control Procedures (ECPs) are addressed in Section 3.3—below and Appendix D. The ECPs outline the minimum environmental controls to be implemented for each identified environmental aspect having the potential to cause an environmental impact for likely operations at the CUF. Each ECP outlines the issue, the basic management approach, relevant legislation and policies, and details of the associated monitoring and assessment, including key performance indicators (KPIs).

**Figure 2.1: Operational Environmental Management Plans – Responsibilities, Conditions and Commitments**

MINISTERIAL CONDITIONS AND PROPONENT COMMITMENTS DEP AUDIT CODE	LANDCORP	AMC MANAGEMENT (WA)	LANDCORP
	FABRICATION PRECINCT PLANS	COMMON USER FACILITY PLANS	FABRICATOR'S AREA PLANS
490:M2.2 Commitments 490: M3.2 EMS 490:M9.1 Performance Review 490:P5.5 EMP (operations) 490:P5.4 Risk Assessment	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">EMP Operations Fabrication Precinct</div> <div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;">Dredge Maintenance Plan<sup>2</sup></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Common User Facility EMP Operations<sup>1</sup></div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Fabricator's Area EMP Short Term Operations</div> <div style="border: 1px dashed black; padding: 5px; margin-bottom: 5px;">Fabricators Area EMP Operations<sup>1,2</sup></div>
490:M5.1:3 Water Quality 490:M5.3.2 Water Quality Contingency Plan 490:P6.3:2 Marine Water Quality	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Summer Water Quality Monitoring and Response Plan</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Facility Environmental Emergency Response Plan</div>	
490:P7.2:2 Sediment Monitoring 490:P8.2 TBT Management 490:P9.2 Erection of Signs	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Sediment Quality Monitoring and Response Plan</div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Coastal Management Plan</div>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">TBT Management Plan</div>	
490:P10 Access to harbour waters	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;">Offshore Public Access Management Plan</div>		

Note: 1. Users of Common User Facility and Fabricators area to prepare own risk based EMPs.  
2. Management Plans to be prepared as activities become defined.

## 2.4 Other Environmental Aspects

The purpose of the Common User Facility is for multipurpose fabrication, assembly and load out work for various site Users (having temporary or long term use of the site).

This Environmental Management Plan for Operations (the Facility Manager's Environmental Management Plan) covers environmental aspects that have been identified as having a potential impact on the environment from potential activities at the Common User Facility. However, not all environmental aspects and activities at the Common User Facility can be identified until the scope of each individual User licence is determined. These must be identified by the User, in their project specific User Environmental Compliance Plan which must be submitted and reviewed by LandCorp or the Facility Manager prior to the granting of a User licence.

A method is needed to identify those other activities at the Common User Facility that may have an environmental impact. This method is detailed in environmental administrative procedures (EAP004) for environmental risk assessment and involves identifying what the risks are, assessing the significance of them and then prioritising those that are significant (see Appendix B, EAP004).

For activities assessed to have a moderate or high environmental risk, the User will prepare a User Environmental Management Plan (in addition to their Environmental Compliance Plan) for approval by LandCorp or the Facility Manager. The identified environmental impacts need to be management and the Environmental Management Plan should identify appropriate management action including the preparation of environmental control procedures where required.

For activities assessed to have a very low or low environmental risk the User may be required by LandCorp or the Facility Manager to monitor that activity to validate the level of the assessment.

## 2.5 Legal and Other Requirements

Table 2.2 presents the environmental regulatory requirements that relate specifically to the Common User Facility. All User Plans must acknowledge and comply with these requirements. It should be noted that Table 2.2 might be amended where regulatory requirements change.

All users must comply with relevant Environmental Protection Authority Ministerial Conditions and the Proponent Commitments applicable for the Common User Facility as shown in Figure 2.1. This compliance involves:

- Preparing and implementing an appropriate Environmental Management System (Ministerial Conditions 490:M3.1, 490:M3.2);
- Conducting environmental reviews every three years and reporting findings to the Facility Manger, LandCorp (with on reporting to the DEP) (Ministerial Condition 490:M9.1);
- Preparing and implementing relevant risk-based environmental management plans (Ministerial Conditions 490:P5.4 and 490:P5.5);
- Responding to situations where water quality criteria are exceeded (Ministerial Conditions 490:M5.1:3 and 490:M5.3:2); and

- Adopting best practice for TBT management (Ministerial Conditions 490:P8.1 and 490P8.2).

**Table 2.1: Prioritised Risk Aspects for Common User Facility (Laydown Area and Wharf Operations)**

Potential Environmental Impact	Risk Category <sup>1</sup>	Priority Score	Appropriate Management Actions by CUF Manager
Vessel fire, explosion, natural disaster, bomb threat while berthed causing oil or chemical spill (worse case scenario > 1000 t of fuel oil)	M	6	Facility Environmental Emergency Response Plan
Leaching of antifoulant and flaking of paint from vessels and scrape operations of vessels may cause TBT contamination of marine environment	M	6	TBT Management Plan, ECP001 Removal of Tributyltin Antifouling Paint from Vessels, ECP002 Hydrowash Operations
Accidental discharge from hose rupture or tank overflow during bunkering (fuel transfer) operations	L	5	ECP003 Minor Spill Response
Discharge of ballast water causing introduction of marine pest species	L	5	ECP004 Ballast Water Management.
Dust caused from sandblasting activities	L	5	ECP005 Dust Management
Accidental discharge of oil contaminated slops from berthed vessels	VL	4	ECP003 Minor Spill Response.
Noise emissions from cargo handling	VL	4	ECP006 Noise Management
Litter causing loss of visual amenity	VL	4	ECP007 Waste and Litter Management
Inappropriate design and management of stormwater	VL	4	ECP008 Stormwater Management
Spills during cargo handling	VL	3	ECP003 Minor Spill Response
Inappropriate disposal of sewage from ships	VL	3	ECP007 Waste and Litter Management
Inappropriate disposal of garbage from ships	VL	3	ECP007 Waste and Litter Management

Note: 1 Risk category legend - M Moderate, L Low, and VL Very low. Priority Score in decreasing order of significance 6 to 3.

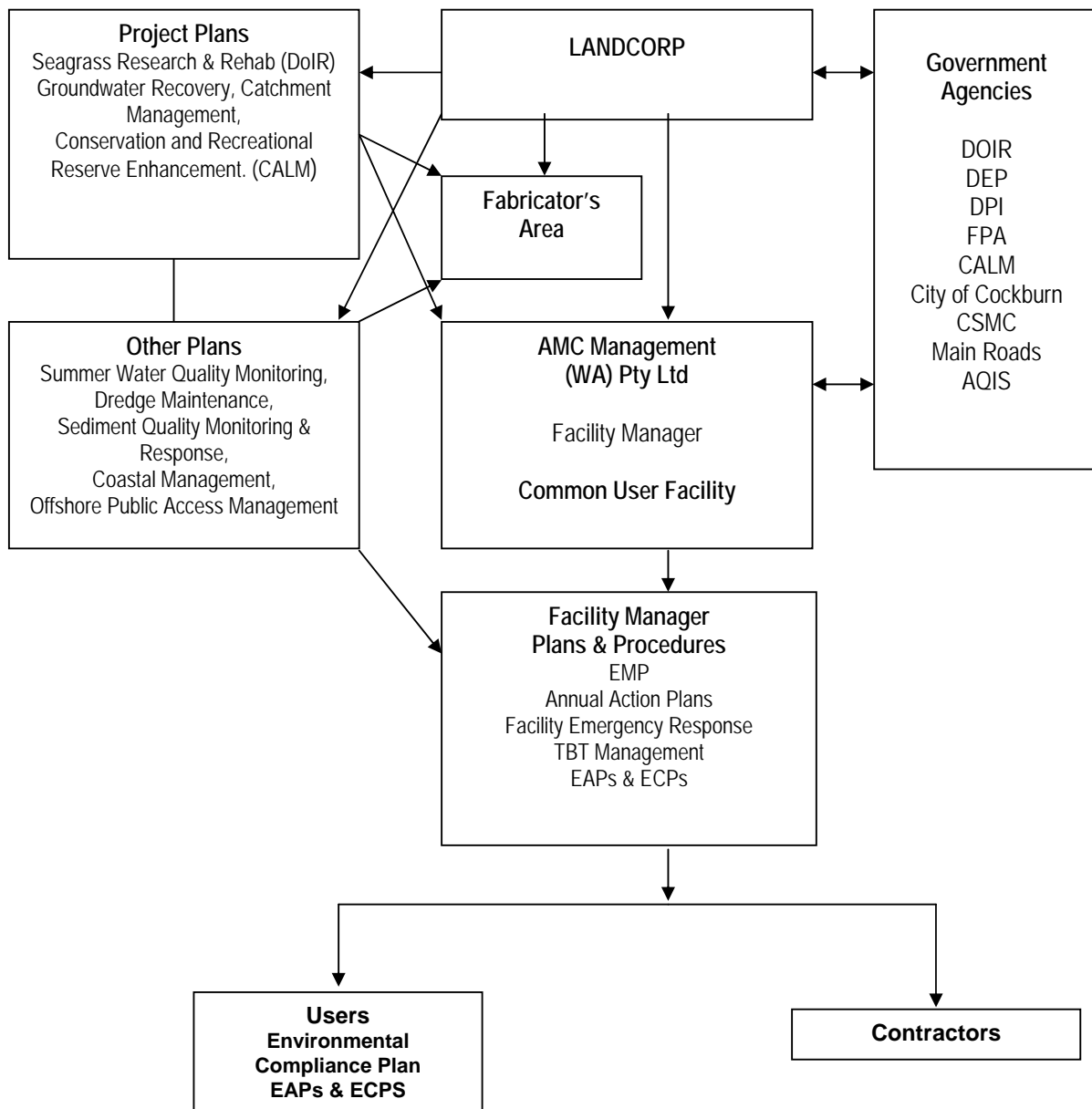
**Table 2.2: Regulatory Requirements**

<b>Legislation/Regulation</b>	<b>Application</b>
<i>Bush Fires Act 1974</i>	Manages fire safety.
<i>Clean Air Regulations 1967</i>	Regulates air borne emissions.
<i>Environmental Protection (Controlled Waste) Regulations 2001</i>	Outlines the requirements to document the transport and disposal of liquid waste, in particular hazardous materials.
<i>Environmental Protection (Unauthorised Discharges) Regulations) 2004</i>	Prohibits the discharge of scheduled materials into the environment
<i>Explosives and Dangerous Goods Act 1961</i>	Provides guidance for management and handling of dangerous goods.
<i>Explosives and Dangerous Goods (Dangerous Goods Handling and Storage) Regulations 1992</i>	Regulations for management and handling of dangerous goods.
<i>Dangerous Goods (Transport) Act 1998</i>	Provides guidance for the transport of dangerous goods.
<i>Dangerous Goods (Transport) (Dangerous Goods in Ports) Regulations 2001</i>	Regulations for the management, handling and shipping of dangerous goods in ports.
<i>Environmental Protection (NEPM-NPI) Regulations 1998</i>	Requires industries to estimate emissions to air, land and water on an annual basis.
<i>Environmental Protection (Noise) Regulations 1997</i>	Noise limits, methods for noise assessment and control.
<i>Environmental Protection (Liquid Waste) Regulations 1996</i>	Control and abatement of liquid waste.
<i>Environmental Protection Act 1986</i>	Prevention, control and abatement of pollution and conservation protection and enhancement of environment.
<i>Explosives and Dangerous Goods Act 1961-86</i>	Regulates the manufacture, use and storage of explosives and dangerous goods.
<i>Health Act 1911</i>	Provides regulation for the protection of public health, e.g. sewage disposal.
<i>Marine and Harbours Act 1981</i>	Provision of safe and efficient shipping and boating.
<i>Ozone Protection Act 1989 (Federal)</i>	Controlling the manufacture of ozone depleting substances.
<i>Pollution of Waters by Oil and Noxious Substances Act 1987</i>	Protection of sea and certain waters from pollution by oil and other pollutants. Inspection of vessels and infrastructure.
<i>Port Authorities Act 1999</i>	The control, management and operation of ports.
<i>Shipping and Pilotage Act 1967</i>	Shipping and pilotage in and about the ports, fishing boat harbours and mooring control areas of the State.
<i>Waterways Conservation Act 1976</i>	Conservation and management of water and the associated land and environment.
<i>WA Marine Act 1982</i>	Regulation of navigation and shipping.

## 3. Implementation and Operation

### 3.1 Structure and Responsibility

The Facility Manager has the ultimate responsibility to implement this EMP to ensure compliance with environmental legislative requirements. The links AMC Management (WA) Pty Ltd and Users of the CUF have with other project stakeholders as shown in the following chart (Figure 3.1).



**Figure 3.1: Organisation Flow Chart and Links with Project Stakeholders**

### **3.1.1 Facility General Manager**

As the Facility Manager, AMC Management (WA) Pty Ltd has overall authority in the determination of all matters affecting the implementation and operation of environmental practices at the CUF. The Facility General Manager is responsible for ensuring the AMC Management (WA) Pty Ltd Environmental Policy is carried out.

### **3.1.2 Operations and Maintenance Manager**

The Facility Manager's Operations and Maintenance Manager (OMM) reports to the Facility General Manager and is responsible for:

- Identifying environmental aspects at the Common User Facility;
- Implementing the (Access) User Management process that ensures all Users of the Common User Facility understand their responsibility to develop and implement an Environmental Compliance Plan to meet the requirements of Facility Manager's Environmental Management Plan (this document) and environmental legislation. This commences at the time of a User application;
- Reviewing Users' Environmental Compliance Plans and Environmental Control Procedures;
- Auditing the Facility Manager's environmental management systems and auditing/inspecting the User's activities;
- Overseeing the response to any incident by Users and their subcontractors;
- Assisting Users in their response to incidents; and
- Liaising with the Fremantle Ports Authority in the event of spill to the harbour by vessels.

### **3.1.3 Environmental Committee**

The Environmental Committee consists of the Facility Manager's senior management – namely the General Manager (GM) (Chair), Business Development Manger (BDM) and Operations and Maintenance Manger (OMM). The Environmental Committee has the authority and responsibility to:

- Initiate action to ensure compliance with the User's Environmental Compliance Plan;
- Identify, examine and evaluate any environmental aspects (aspects and impacts) at the Common User Facility;
- Develop, implement and review the environmental objectives, plans and targets;
- Investigate and act upon any complaints regarding Common User Facility environmental impacts, including:
  - initiate, recommend or provide solutions to these impacts through designated channels;
  - control further activities until any environmental deficiency or unsatisfactory condition has been corrected; and
  - address the possible need for changes to the policy, objectives and procedures in the light of conclusions drawn from environmental performance reviews.

### **3.1.4 User Managers**

Each User at the Common User Facility must nominate a User Manager (UM) to specifically address environmental aspects associated with their activities. The UM will liaise with the OMM and will be responsible for:

- Identifying environmental aspects and impacts through an environmental risk assessment of User's activities (Appendix B, EAP004);
- Developing Environmental Compliance Plans, an EMP where required because of the higher level of risk associated with a User's activities and Environmental Administrative and Control Procedures relevant to their area of interest;
- Providing environmental induction and awareness training to all of the Users employees and sub-contractors, and managing visitors to the User's facilities;
- Implementing their company environmental policy and procedures; and
- Complying with any Environmental Control Procedures that have been developed for the User based on compliance with the Facility Manager's Environmental Management Plan and supporting Environmental Control Procedures.

### **3.1.5 All Personnel Operating within the CUF**

It is the responsibility of all personnel/employees operating within the Common User Facility to incorporate the procedures (including Environmental Administrative and Control Procedures) and/or legal requirements that they have been trained in, into their work practices. If personnel are aware of or identify any issue which may impact on the effective implementation of the procedures (eg: including any conflicting requirements in work practices), or where they have identified possible improvements (eg: simplify, clarify, change) to these procedures, they should notify their UM or the Facility Manager's OMM as soon as possible.

## **3.2 Environmental Administrative Procedures**

Environmental Administrative Procedures (EAPs) (Appendix B) specify administrative procedures relating to implementation of this EMP such as monitoring, corrective action, records, audit programs, environmental risk analysis. The following are the specific administrative procedures produced to date:

- Documentation Control (EAP001);
- Incident Reporting and Corrective Action (EAP002);
- Environmental Management Audits (EAP003);
- Environmental Risk Assessment (EAP004);
- Significant Environmental Impacts (EAP005);
- Training and Environmental Awareness (EAP006);
- Environmental Performance Review (EAP007);
- Communications/Complaints (EAP008); and
- Evaluation of User EMPs (EAP009).

### 3.3 Environmental Control Procedures

Environmental Control Procedures (ECPs) (Appendix D) have been prepared which specify their purpose, application, procedures, responsibility and references to various activities with a potential environmental impact. ECPs comprise:

- Removal of Tributyltin Antifouling Paint from Vessels (ECP001);
- Hydrowash Operations (ECP002);
- Minor Spill Response (ECP003);
- Dust Management (ECP004);
- Ballast Water Management (ECP005);
- Noise Management (ECP006);
- Waste and Litter Management (ECP007); and
- Stormwater Management (ECP008);
- Spray Painting within the AMC-CUF Environmental Aspects (ECP009)

The environmental aspects listed have been identified as requiring ECPs based upon risk assessment with moderate, low or very low environmental risk (Table 2.1).

#### Monitoring and Review of ECPS

**The Facility Manager is responsible for ensuring the Environmental Control Procedures are monitored** to ensure they are working effectively and continue to meet the requirements of this EMP and address the identified environmental aspects and significant impacts. In addition, the ECPs will require amending or additions made where operational activities change or are more adequately known.

*Where the management approaches described in an ECP do not achieve the stated objectives (eg: ascertained through audits of the implementation of the ECPs and the Users of the Facility, and measuring the associated KPIs), it is the responsibility of CUF Management to review and revise that ECP accordingly and to ensure those changes are implemented, included in the User's Environmental Compliance Plans, and monitored.*

### 3.4 TBT Management Plan

The Facility Manager is responsible for the development and implementation of a Tributyltin (TBT) Management Plan.

The aim of the TBT Management Plan is to provide for the control of tributyltin (TBT) during on-shore hull cleaning activities by ensuring any toxic residues and discharges are collected and disposed of at approved landfill facilities. The Plan sets out the work practices to be adopted during vessels maintenance, removal of antifouling coatings and the disposal of generated waste (Appendix C). Environmental Control Procedures for hydrowash operations (ECP001) and the removal of antifoulant paint from vessels (ECP002) form an integral part of the TBT Management Plan.

Monitoring of marine sediments for TBT and other potential antifoulant toxicants by the Fabrication Precinct Management within Landcorp will determine changes in TBT concentrations over time in the harbour.

It is expected that downward trend in TBT levels will occur as TBT is replaced as an antifoulant, controls are put in place to manage TBT release during on-shore hull cleaning and TBT degrades naturally over time.

## 3.5 Emergency Response Plans

### 3.5.1 Facility Environmental Emergency Response Plan

The Facility Manager is responsible for developing, implementing, maintaining and reviewing suitable emergency plans and procedures to ensure the Fabrication Precinct is able to respond effectively to any environmental emergency. A Facility Environmental Emergency Response Plan (FEERP) has been prepared which addresses oil/chemical spills while vessels are berthed and also sets out procedures to be followed for general emergencies such as fire, natural disasters, bomb/terrorist threats, and hazardous materials incidents.

Environmental emergencies may result from:

- Oil spills from vessel collisions, groundings, during cargo transfer and bunker (fuel oil) transfer;
- Unintentional discharge of oil or other hazardous substances from a spillage; and
- Ballast water discharges.

The FEERP specifically covers oil/chemical spills greater than approximately 20 litres into the harbour (offshore) from the Common User Facility and within the Common User Facility (onshore).

For minor spills the Environmental Control Procedure (ECP003) describes the appropriate management response.

The FEERP interacts with the Fremantle Port Authority, local, state and national emergency response plans.

### 3.5.2 Fremantle Port Emergency Response Plan

Response to spills within designated Port Limits is the responsibility of the relevant Port Authority. A spill occurring within the limits of the Jervoise Bay Southern Harbour is the responsibility of the Fremantle Port Authority (Fremantle Ports), as this area has not yet been gazetted to be excluded from Port Waters (the Northern harbour has been gazetted and excluded).

The Fremantle Ports' Emergency Response Plan outlines the arrangements for the response to and management of emergencies in these ports (Fremantle Ports (2003)).

## 4. Checking and Corrective Action

### 4.1 Evaluation of User Environmental Compliance Plan

Prior to the granting of any licence/lease, a potential User of the CUF must submit a project specific Environmental Compliance Plan to the Facility Manager. This User plan will address:

- All those plans and procedures identified in this overarching Facility Manager's EMP; and
- Additional plans and procedures that are required to cover all operations proposed by the User for execution within the Common User Facility.

The User Environmental Compliance Plan will be reviewed by the Facility Operations and Maintenance Manager in accordance with procedure EAP009. In addition to the current plan, the environmental record of the User may be examined. Concerns in these areas may require tighter planning and control on the part of the User and additional auditing on the part of AMC Management (WA) Pty Ltd. When agreement is reached between the User and Facility Manager, that the User Environmental Compliance Plan is sufficient to cover the User's operations, a recommendation will be made that, subject to other approvals, the User licence be granted. Once the Plan is accepted and the User licence is granted, the User Environmental Compliance Plan becomes the document that the User must adhere to during the project. The responsibility for the implementation of the Plan will rest with the User in accordance with the User Licence Agreement. The Facility Manager will, however, always retain the right of inspection and audit and the right to demand cessation of User operations in the case of material breaches of the Plan.

### 4.2 Monitoring and Measurement

Environmental Administrative Procedures (Appendix B) have been established to monitor and measure the key characteristics of User operations and activities that can have a significant impact on the environment. The Environmental Administrative Procedure includes the recording of information, performance tracking, operational controls and conformance with environmental legislation/regulations. Environmental Administrative Procedures that relate to monitoring and measurement include:

- Documentation Control (EAP001);
- Incident Reporting and Corrective Action (EAP002); and
- Environmental Performance Review (EAP007).

### 4.3 Corrective and Preventative Actions

Environmental Administrative Procedures (Appendix B) have been established for defining responsibility and authority for the handling and investigating of non-conformance, taking action to mitigate any impacts caused and for initiating and completing corrective and preventative action. Specific Environmental Administrative Procedures that relate to corrective and preventative actions include:

- Incident Reporting and Corrective Action (EAP002);
- Environmental Performance Review (EAP007);
- Communications/Complaints (EAP008); and

- Evaluation of User Environmental Compliance Plan (EAP009).

## 4.4 Records

Environmental Administrative Procedures (Appendix B) have been established for the identification, maintenance and distribution of environmental records. These records include training records and the results of audits and reviews.

Specific Environmental Administrative Procedures include:

- Documentation Control (EAP001); and
- Communications/Complaints (EAP008).

## 4.5 Environmental Audit Program

The overall aim of the audit process is to ensure that agreed standards in environmental management are being met by the Facility Manager and Users of the CUF. The audit will:

- determine whether or not the implementation of the Users' Environmental Compliance Plan, Environmental Administrative and Control Procedures meet the requirements of the Facility Manager's Environmental Management Plan (this document) and any legislative requirements, and that they have been properly implemented and maintained; and
- Check whether or not Users are appropriately trained to respond to emergency incidents.

The results of audits are to be provided to the Facility Manager as soon as possible after the audit is completed. The Facility Manager has a responsibility to review the results and ensure the Users make any improvements/changes required to ensure environmental management meets the specific Environmental Administrative Procedure (Appendix B) relating to auditing is:

- Environmental Management Audits (EAP003).

## 4.6 Management Review

In order to maintain continual improvement, and to ensure the suitability and effectiveness of the Facility Manager's Environmental Management Plan (this document) and its overall environmental performance, AMC Management (WA) Pty Ltd will review and evaluate this EMP and its' implementation:

- Annually, using the Environmental Administrative Procedure EAP007 or equivalent.
- Where there are environmental incidents that require a review or changes to or new information or environmental aspects arising out of activities at the Common User Facility.

The review will assess the extent to which the Facility Manager's Environmental Management Plan takes into consideration:

- Results of audits and monitoring programs;
- Extent to which objectives and targets have been met;
- Environmental incidents that have occurred;

- The continuing fitness of the Facility Manager's Environmental Management Plan in relation to changing conditions and information – (risk assessment); and
- Concerns or points of note expressed by relevant interested parties including LandCorp, User Managers and relevant government agencies, including identifying any new or changed legislation requirements.

The specific Environmental Administrative Procedure (Appendix B) relating to management review is the:

- Environmental Performance Review (EAP007).

## **4.7 External Review**

Landcorp, as the Proponent of the Australian Marine Complex Fabrication Precinct, will conduct an external review of the effectiveness of the implementation of the Facility Manager's Environmental Management Plan every three years.

## References

ANZECC (2000). ANZECC Strategy to Protect the Marine Environment – *Development and Implementation of a Management/Auditing Strategy for Waste Reception Facilities at Ports, Marinas and Boat Harbours*. Australian and New Zealand Environmental and Conservation Council (ANZECC, 2000).

**Fremantle Ports (2003) Port *Emergency Response Plan*, Fremantle Ports January 2003.**

Halpern Glick and Maunsell (1997) *Industrial Infrastructure and Harbour Development Jervoise Bay, Public Environmental Review*, Report for Department of Commerce and Trade in Association with Landcorp and Mains Road, WA. December.

AMC Management (WA) Pty Ltd (Integrated Management System document 'P-A17') *Australian Marine Complex, Common User Facility, Access Manual*, 2006.

LandCorp EMP – *Environmental Management Plan for Operations of Australian Marine Complex, Fabrication Precinct* (PB Report 2146087A: pr\_9761A: Rev E, July 2003).