



## HSE-PRO-006 DIVING

### 1.0 INTRODUCTION

#### 1.1 Purpose

This procedure describes requirements of suitably qualified and experienced contractors and consultants to undertake diving operations within Mid West Ports Authority (MWPA) waters. MWPA does not allow employees to undertake commercial diving operations.

### 2.0 PROCEDURE

#### 2.1 Diving Operations

Diving operations by external parties may only be conducted where:

- There is an operational need for the diving to be conducted or a requirement for research information to be collected,
- Diving operations are conducted in accordance with AS/NZS 2299.1:2015 Occupational diving operations, AS/NZS 2299.2:2002 *Occupational diving operations* – Scientific diving or Government of Western Australia Department of Fisheries Diving Policy and Manual depending on the type of work undertaken,
- Diving operations are conducted in accordance with an approved MWPA HSE-PRO-032/FRM07 Work Afloat and Dive Permit
- All personnel involved in the diving operation have current qualifications and medicals as required in the relevant AS/NZ Standards or Government of Western Australia Department of Fisheries Diving Policy and Manual.

#### 2.2 Recreational Diving

MWPA does not permit recreational dives to be conducted within the waters of the main commercial harbour or fishing boat harbour.

#### 2.3 Identification and Management of Risk

Diving conditions within Geraldton Port are typical of conditions experienced in normal commercial diving operations and as such strategies to manage these risks are covered by following AS/NZS 2299.1:2015 or AN/NZS 2299.2:2002. The Work Afloat and Dive Permit additionally require JSEA's or Safe Work practices regarding diving operations pertaining to the particular project which are to be submitted with the permit application. The typical, general hazards associated with diving and the control measures are outlined in Table 1. Job specific hazards need to be identified within the Permit Application documentation (JSEA).

Table 1 – Hazards and Risks Associated with Diving Work

Hazard/Risk Issue	Control Measure
<b>Diving related illnesses</b>	To manage the risk of suffering diving related illnesses all dives should be carried out under the supervision of an appropriately qualified dive supervisor. In accordance with AS/NZS 2299.1:2015 consideration is to be given to the lack of availability of a local decompression chamber.
<b>Manual handling</b>	This is a generic risk associated with field work and should be managed in accordance with normal practices. Divers must always wear protective gloves when working under water.
<b>Entanglement</b>	A lifeline attached to a surface float, or tended by the dive supervisor at the surface, is to be worn during all dives. The lifeline can be used to signal for assistance from the standby diver if required and is used by the standby diver to locate the diver underwater if assistance is required. There is a risk that the diver can become entangled with the lifeline or other lines under the water. In some cases this may prevent the diver from being able to swim towards the surface. All divers are required to carry a knife during operations underwater. If entanglement occurs the diver may attach the lifeline above the tangle to their BCD and cut away the entangled section of the line to remove the tangle themselves or if unable to resolve the tangle call the standby diver to assist.
<b>Underwater exposure</b>	Divers are to wear full body wet suits of an appropriate thickness for the ambient water temperature at the time of the diving operation. Gloves must be worn and consideration is to be given to wearing hoods if diving during winter or undertaking long duration dives.
<b>Vessel movements</b>	<p>Vessel strikes could potentially cause severe injury to a diver. To ensure this doesn't happen:</p> <ul style="list-style-type: none"> <li>• Diving must be conducted in accordance with a dive permit,</li> <li>• Regular communication must be maintained with the marine department and tugs,</li> <li>• A dive flag must be displayed on the dive vessel,</li> <li>• A dive flag must be displayed on the shot line,</li> <li>• The dive supervisor must have a means of communicating with the diver,</li> <li>• The surface team are to maintain a vigil for any vessels moving within the vicinity of the project and warn them to keep clear of the diver.</li> </ul> <p>For certain diving operations it may be advantageous to dive from a small vessel which does not anchor during the dive. When undertaking dives without anchoring the diver must dive with a lifeline to ensure the vessel is aware of their location and the vessel must be fitted with prop guards to ensure the diver cannot be cut with props as required by AS/NZS 2299.1:-2015.</p>

Hazard/Risk Issue	Control Measure
<b>Equipment failure</b>	<p>All dive equipment used must be maintained and serviced and dive cylinders must be stamped and in date. All dive gear is to be provided by the dive supervisor or inspected as complying with these conditions by the dive supervisor. If an equipment failure does occur divers should:</p> <ul style="list-style-type: none"> <li>• Call the standby diver if required; or</li> <li>• Make a slow controlled ascent; or</li> <li>• Make a controlled emergency ascent.</li> </ul> <p>Divers are not permitted to enter areas where they don't have direct access to the surface and where an emergency ascent would not be possible.</p>
<b>Expired air supply</b>	<p>Divers must check gauges regularly and make a controlled ascent if their air supply falls below 50 Barr.</p> <p>When conducting dives within the Commercial Harbour visibility may be low due to turbidity associated with routine shipping movements. When undertaking dives within the commercial harbour that may experience low visibility conditions, all requirements of AS/NZS 2299.1:2015 for low visibility diving must be followed. This means that divers must have a secondary air supply when gauges may not be clearly visible. This requirement is particularly relevant to sediment sampling programmes which may be conducted in low visibility conditions (or cause low visibility through disturbance of the sediment layer). If a zero visibility situation is encountered by a diver and that diver does not have a secondary air supply they must immediately abort the dive and surface.</p>
<b>Contaminated air supply</b>	<p>Prior to using air cylinders for diving operations the following information must be checked and confirmed by the dive supervisor:</p> <ul style="list-style-type: none"> <li>• Cylinder is correctly labelled for air,</li> <li>• Cylinder is stamped in service,</li> <li>• Compressor used to fill the cylinder is in service,</li> <li>• The compressor has an in-date air quality check.</li> </ul>
<b>Marine animal injury</b>	<p>Divers must wear full body wetsuits and gloves to avoid the potential for marine animals such as stingers contacting the skin. Diving should not be conducted when a dangerous marine animal is known to be in the vicinity of the dive site.</p>
<b>Drowning</b>	<p>All dive personnel must be trained to use Oxygen Resuscitation equipment, and a supply of medical oxygen must be available in the dive vessel. Divers must be attached to a lifeline so they can be found by the standby diver or pulled to the surface in the event of an emergency. The dive supervisor must maintain a vigil over the dive operation including watching the lifeline for signals and watching bubbles which provide an indication of the status of the diver.</p>
<b>Entrapment</b>	<p>Water intakes can entrap divers through suction against the skin or wetsuits which could potentially result in divers being trapped underwater. No diving is to be conducted in the vicinity of water intakes (including ships which all have water intakes). Divers are not permitted to enter any confined areas underwater which do not have direct access to the surface above. If entrapment does occur the standby diver is to assist.</p>

### **3.0 ASSOCIATED DOCUMENTS**

HSE-PRO-032/FRM07 Work Afloat and Dive Permit

### **4.0 REFERENCES**

AS/NZ 2299.1: 2015 - Occupational Diving Operations

AS/NZ 2299.2: 2002– Occupational diving operations scientific diving

Government of Western Australia Department of Fisheries Diving Policy and Manual

### **5.0 ADMINISTRATION**

**Custodian:** HSEQ Manager

**Approval:** Geoff Mackin  
Acting General Manager Operations

**Date:** 27 September 2018