

## IMCA International Code of Practice for Offshore Diving – Gulf of Mexico (GoM) Appendix

When the *IMCA International Code of Practice for Offshore Diving* was originally published it was indicated that IMCA could prepare appendices for countries or regions with their own specific regulations or requirements. A Gulf of Mexico appendix, issued as IMCA information note D 12/05, was developed which set out the additional requirements, supplementary to those contained in the code and the associated IMCA guidance documents.

When the IMCA code was updated and re-issued as IMCA D 014 Rev. 1, October 2007, we reviewed the information note and re-issued it (as IMCA D 12/07) to reference the appropriate sections in the new code. This note has now been updated to reflect recent changes in regulatory requirements in the US GoM and the recently revised IMCA Guidance documents.

This information note is applicable to US territorial waters only.

### 1 Background

There are a number of legislative requirements and guidelines applicable to offshore diving contractors operating in the United States and on its continental shelf. While the *IMCA International Code of Practice for Offshore Diving* sets out examples of good practice, where national regulations exist the code should only be used where it does not conflict with relevant national regulations, as the applicable national regulations must take precedence over the code.

The following have been identified as supplementary to the requirements contained in the *IMCA International Code of Practice for Offshore Diving* and associated IMCA guidance.

### 2 Administrative Arrangements

#### 2.1 Designation of Person-In-Charge

The United States Coast Guard (USCG) Code of Federal Regulations 46, subchapter V – *Marine Occupational Safety and Health Requirements*, part 197, subpart B – *Commercial Diving Operations* – sets out requirements for the designation of the person-in-charge and also sets out their responsibilities.

#### 46 CFR Ch. 1 §197.208 – Designation of Person-In-Charge

This designates the person-in-charge as:

- ◆ The owner or agent of a vessel or facility without a designated master shall designate, in writing, an individual to be the person-in-charge of the vessel or facility.
- ◆ Where a master is designated, the master is the person-in-charge.

#### 46 FR 197.210 – Responsibilities of the Person-In-Charge

#### 46 CFR Ch. 1 §197.402 – Responsibilities of the Person-In-Charge

This sets out responsibilities of the person-in-charge (PIC), including:

- ◆ PIC shall be fully cognisant of the provisions of this subpart of the regulations.
- ◆ PIC shall prior to permitting any commercial diving operation to commence, have:

- the designation of the diving supervisor for each diving operation as required by §197.210;
- a report on:
  - the nature and planned times of the planned diving operation; and
  - the planned involvement of the vessel or facility, its equipment, and its personnel in the diving operation.
- ◆ PIC shall co-ordinate the activities on and off the vessel or facility with the diving supervisor.
- ◆ PIC shall ensure that the vessel or facility equipment and personnel are kept clear of the dive location except after co-ordinating with the diving supervisor.

## 2.2 Reporting

### 46 CFR Ch.1 §197.484 – Notice of Casualty

This section sets out the requirements for the person-in-charge to notify the Officer-in-Charge, Marine Inspection, as soon as possible after a diving casualty occurs, if the casualty involves any of the following:

- ◆ loss of life
- ◆ diving related injury to any person causing incapacitation for more than 72 hours
- ◆ diving related injury to any person requiring hospitalisation for more than 24 hours.

In addition §197.486 sets out the requirements for the written report and §197.488 sets out the requirements for retention of records after casualty notification.

## 3 Qualifications

### 3.1 DOT Regulated Pipelines and Facilities

The United States Department of Transportation (DOT) (49 CFR, part 192 subpart N and part 195 subpart G) mandates that all individuals who operate and maintain DOT regulated pipelines and facilities need to be qualified to perform specific covered tasks (i.e. hold an Operators Qualification (OQ)).

These regulations require all pipeline workers as identified in the regulations to declare the tasks that they perform and pass an assessment to prove qualification; training is not a requirement of the rule.

The regulations also require that the qualifications applicable to an individual who operates and maintains a pipeline facility need to address the ability to recognise and react appropriately to abnormal operating conditions that may indicate a dangerous situation or condition exceeding designed limits. The rule applies to all personnel who perform covered tasks, regardless of whether they are employed by the operator, a contractor, a sub-contractor, or any other entity performing covered tasks on behalf of the operator.

### 3.2 Tenders

#### IMCA D014 Rev 3.1 – International Code of Practice for Offshore Diving – Section 5.1.1. – Tenders

This provides guidance on the competence required of tenders. For the purposes of this information note, tenders operating in the Gulf of Mexico should be, as a minimum, a trained diver.

### 3.3 Categories of Competent Person

#### IMCA D018 – Code of Practice on the Initial & Periodic Examination, Testing & Certification of Diving Plant & Equipment

This sets out the categories of competent persons. One of the persons identified in category 3 is that of a chartered engineer. The equivalent position in the US is that of a professional engineer.

### **3.4 Medical Personnel and Qualifications**

The US Department of Labor, Occupational Safety and Health Administration (OSHA), Part 1910 – Occupational Safety and Health Standards, Subpart T – Commercial Diving Operations, 1910.410 Qualifications of dive team, (a) (3) states, “All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).”

To hold Diver Medic Technician (DMT) certification in the US, a person has to meet the pre-qualification requirements and complete training to be certified by the National Board of Diving and Hyperbaric Medical Technicians (NBDHMT).

### **3.5 Safety and Environmental Management System (SEMS) 30 CFR 250 Subpart S**

It is a US federal requirement for offshore operators to have a SEMS plan in place for each of their facilities. Based on API’s recommended practice for Development of a SEMS for offshore operations and facilities (API RP75) with 13 elements which can be summarised in 6 areas:

- 1) Facilities and engineering, design, equipment
- 2) Hazard analysis
- 3) Job safety analysis (JSA)
- 4) Management of change (MOC)
- 5) Operating procedures
- 6) Training and documentation and audits.

This regulation ties together all aspects of operations, including all existing safety procedures. The purpose is to make sure there are no gaps in the safety system that could lead to an accident. The SEMS is a systematic, comprehensive strategy for protecting the health and safety of workers and the public and safeguarding the environment.

### **3.6 Bureau of Safety and Environmental Enforcement (BSEE)**

The Secretary of the Interior has regulatory jurisdiction over all entities that perform activities under provisions related to leasing of the Outer Continental Shelf (OCS) under the Outer Continental Shelf Lands Act (OCSLA) (43 USC 1334(a) and 13509(b)). Under Secretarial Order 3299, BSEE is responsible for safety and environmental enforcement functions including, but not limited to, the authority to inspect, investigate, levy penalties, cancel or suspend activities. BSEE Interim Policy Document (IPD No. 12-07), issued 15 Aug 2012, clarifies that contractors can be issued Incidents of Noncompliance (INCs) for serious violations of BSEE regulations.

## **4 Technical Requirements**

### **4.1 Pressure Vessels for Human Occupancy**

Dive systems installed on a DSV or other ‘diving platform’ should be manufactured, installed, tested and maintained appropriately. This is normally achieved by a variety of means, including classification society surveys during manufacture and operations, certification through industry guidelines such as IMCA D018 – *Code of practice on the initial and periodic examination, testing and certification of diving plant and equipment*, self-audit and third party audits against guidelines such as IMCA D023 – *Diving equipment*

systems inspection guidance note (*DESIGN*) for surface orientated diving systems (air) and IMCA D024 – *DESIGN* for saturation diving systems (bell).

There are however certain technical requirements set out in the American Society of Mechanical Engineers (ASME) Code ‘Boiler and pressure vessel code’ and, in particular, ASME PVHO-1 – the ASME standard ‘*Safety standard for pressure vessels for human occupancy (PVHO)*’ – that differ from other class requirements or construction codes. These requirements often result in diving systems outside the ASME PHVO scheme having their safe working pressures de-rated by a minimum of 30%. This de-rating may greatly impact the operational parameters of the system and working platform.

These requirements are set out in the USCG Code of Federal Regulations USCG 46 CFR, Ch. 1, §197.300 and the regulations set out in 29 Code of Federal Regulations established under the US Department of Labor OSHA, part 1910, sub-part T – *Commercial Diving Operations* (OSHA 29 CFR §1910.430).

## 4.2 Colour Coding of Gas Storage Cylinders

IMCA D014 Rev 3.1 – IMCA International Code of Practice for Offshore Diving – Section 4.7.3 – Marking and Colour Coding of Gas Storage

This states that the diving company will need to ensure that all gas storage units comply with a recognised and agreed standard of colour coding and marking of gas storage cylinders, quads and banks.

There is no single recognised colour-coding standard in the US. Gas storage cylinders are supplied with labels indicating their contents. However, to follow the IMCA guidelines there should be a recognised colour coding system in place. In addition, the Compressed Gas Association (CGA) provides guidelines concerning colour coding and fitting design. All diving gas needs to be analysed and properly labelled/colour coded before use.

## 4.3 Oxygen

IMCA D014 Rev. 3.1 – IMCA International Code of Practice for Offshore Diving – Section 4.7.6 – Oxygen

This states that any gas mixture containing more than 25% oxygen by volume will need to be handled like pure oxygen.

Under CGA guidelines, and for the purposes of this information note, any gas mixture over 23.5% oxygen by volume should be handled like pure oxygen.

IMCA D023 – *DESIGN for Surface Orientated Diving Systems (Air)*, Section 3 – Twinlock Air Chamber, Item 5.11

It states that: “Valves carrying oxygen (or mixes containing more that 25% oxygen) at a pressure higher than 15 bar must not be quarter turn.”

Under ASME PHVO-1, no ball valves should be included on systems carrying oxygen at pressures of greater than 8.6 bar (125 psi).

## 4.4 Twinlock Air Chambers Medical Locks

IMCA D023 – *DESIGN for Surface Orientated Diving Systems (Air)*, Section 3 – Twin Lock Air Chamber, item 5.14 – Medical Lock

This states that: A medical lock should be fitted to the main lock of the chamber.

In the Gulf of Mexico, the provision of a medical lock on a twin compartment air chamber is virtually unknown, whereas elsewhere in the world a medical lock is considered as standard.

For the purposes of this information note, any twin lock air chamber manufactured after 1 January 2007 need to be fitted with a medical lock. Twin lock air chambers manufactured prior to 1 January 2007 and without a medical lock may continue to be used. However, suitable procedures and sufficient gas supplies must be available to support the use of the outer lock repeatedly during both planned decompression and the event of an emergency.

## **5 Surface Supplied Mixed Gas Diving Operations**

### **5.1 Twin Lock Chamber – Medical Lock**

IMCA D037 – DESIGN for Mixed Gas Surface Supplied Operations

Again for the purposes of this information note, any new twin lock air chamber manufactured after 1 January 2007 needs to be fitted with a medical lock. Twin lock air chambers manufactured prior to 1 January 2007 and without a medical lock may continue to be used. However, suitable procedures and sufficient gas supplies must be available to support the use of the outer lock repeatedly during both planned decompression and the event of an emergency.

### **5.2 Surface Supplied Mixed Gas Diving from a DP Vessel**

IMCA D030 Rev. 1 – Surface Supplied Mixed Gas Diving Operations

This recognises that the use of this technique from a DP vessel needs to be carefully considered and fully risk assessed, however for the purposes of this information note, surface supplied mixed gas diving from a DP vessel should not be carried out. However, suitable procedures and sufficient gas supplies must be available to support the use of the outer lock repeatedly during both planned decompression and the event of an emergency.