IMCA International Code of Practice for Offshore Diving
Gulf of Mexico 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 (AODC) guidance documents.

Since the IMCA code has now been updated and re-issued as IMCA D 014 Rev. 1, October 2007, we have reviewed the information note and updated it to reference the appropriate sections in the new code. This revised note is attached.

This appendix is applicable to US territorial waters only.

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 (AODC) guidance.

1 Administrative Arrangements

1.1 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:

a) 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;

b) where a master is designated, the master is 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 including:

a) Be fully cognisant of the provisions of this part of the regulations;

b) Prior to permitting any commercial diving operation to commence, have:
   i) The designation of the diving supervisor for each diving operation as required by §197.210;
   ii) 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.

c) Co-ordinate the activities on and off the vessel or facility with the diving supervisor;

d) The person-in-charge shall insure that the vessel or facility equipment and personnel are kept clear of the dive location except after coordinating with the diving supervisor.

1.2 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:

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

In addition §197.384 sets out the requirements for the written report and §197.488 sets out the requirements for retention of records after casualty notification.

2 Qualifications

2.1 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.

2.2 Tenders

IMCA D 014 Rev. 1 – *IMCA 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 appendix, tenders operating in the Gulf of Mexico should be, as a minimum, a trained diver.

2.3 Categories of Competent Person

IMCA D 018 - *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.

2.4 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 DMT (Diver Medic Technician) 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 Technical Requirements

3.1 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 D 018 – *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 D 023 – *Diving equipment systems inspection guidance note (DESIGN) for surface orientated diving systems (air)* and IMCA D 024 – *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).

3.2 Colour Coding of Gas Storage Cylinders

IMCA D 014 Rev. 1 – *IMCA International Code of Practice for Offshore Diving* – section 4.6.2 – *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.

3.3 Oxygen

IMCA D 014 Rev. 1 – *IMCA International Code of Practice for Offshore Diving* – section 4.6.5 – *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 appendix, any gas mixture over 23.5% oxygen by volume should be handled like pure oxygen.

IMCA D 023 – *DESIGN for Surface Orientated Diving Systems (Air),* section 3 – *Twinlock Air Chamber*, Item 3.5

This states that valves carrying oxygen at pressures higher than 15 bar (217.5 psi) should 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)

3.4 Twinlock Air Chambers Medical Locks

IMCA D 023 – *DESIGN for Surface Orientated Diving Systems (Air),* section 3 – *Twin Lock Air Chamber*, item 2.4 – *Medical Locks*

This states that a medical lock needs to 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 appendix any new twin lock air chamber manufactured after 1 January 2007 must 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, they must be operated in accordance with the IMCA document *Procedural arrangements for existing chambers*.

4 Surface Supplied Mixed Gas Diving Operations

4.1 Twin Lock Chamber – Medical Lock

IMCA D 037 – *DESIGN for Mixed Gas Surface Supplied Operations*

Again for the purposes of this appendix any new twin lock air chamber manufactured after 1 January 2007 must 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, provided they are operated in accordance with the IMCA document *Procedural arrangements for existing chambers*.

4.2 Surface Supplied Mixed Gas Diving from a DP Vessel

IMCA D 030 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 appendix, surface supplied mixed gas diving from a DP vessel should not be carried out.