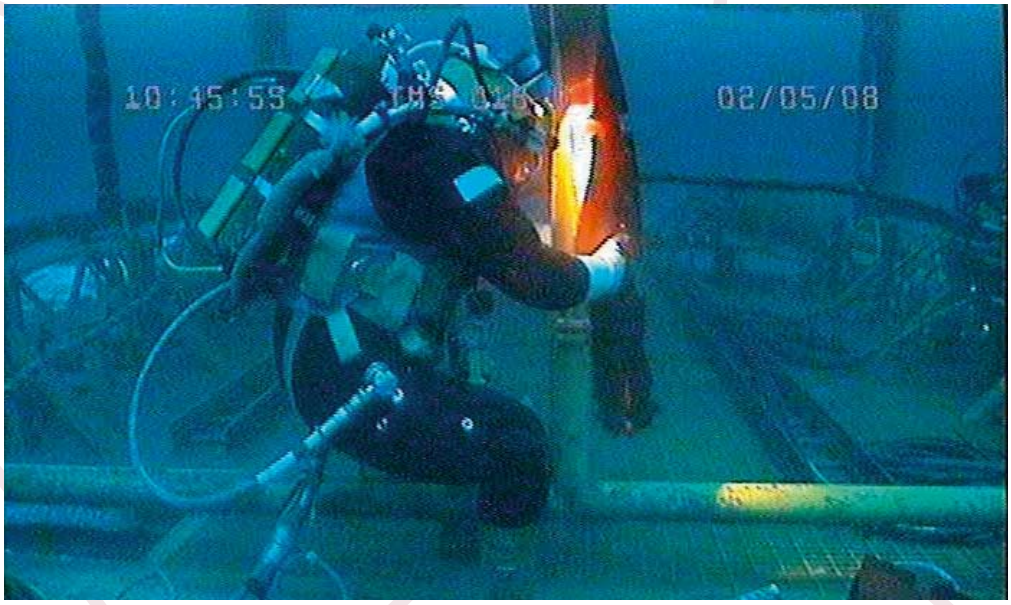
OGP

Diving Recommended Practice

Report No. 411
June 2008



International Association of Oil & Gas Producers

OGP Publications

Global experience

The International Association of Oil & Gas Producers has access to a wealth of technical knowledge and experience with its members operating around the world in many different terrains. We collate and distil this valuable knowledge for the industry to use as guidelines for good practice by individual members.

Consistent high quality database and guidelines

Our overall aim is to ensure a consistent approach to training, management and best practice throughout the world.

The oil and gas exploration and production industry recognises the need to develop consistent databases and records in certain fields. The OGP's members are encouraged to use the guidelines as a starting point for their operations or to supplement their own policies and regulations which may apply locally.

Internationally recognised source of industry information

Many of our guidelines have been recognised and used by international authorities and safety and environmental bodies. Requests come from governments and non-government organisations around the world as well as from non-member companies.

Diving Recommended Practice

Report No: 411
June 2008

Acknowledgements

This recommended practice was produced by the OGP Diving Operations Subcommittee

Table of contents

Appendices

Tables

1 Introduction

Diving Operations involve a unique combination of occupational health and safety issues performed in an unforgiving environment where errors can quickly develop into fatal accidents. Individual risks must be managed if diving is to be conducted in a safe and efficient manner.

There are a variety of regulations, standards and industry guidelines that apply to Diving.

To provide members engaged in the Oil, Gas, Alternative Energy and associated Activities with a clear and uniform approach to the minimum standards required for managing diving operations, The International Association of Oil & Gas Producers (OGP) Diving Operations Subcommittee has developed this Recommended Practice (RP). This RP is based upon current experience and industry best practice for preventing fatalities and serious incidents.

2 Scope

It is recommended that this RP is applied by OGP members in respect of any operation involving diving or surface swimmers conducted within their sphere of influence or responsibility being:

- Diving Operations using:
- Air
- NITROX
- HELIOX
- Saturation
- Atmospheric Diving Suits
- Observation Diving
- ROV in support of diving operations

Including:

- Surface Supplied Air diving, using Air or NITROX as the breathing medium either in the offshore environment (see Appendix 10 & 5). Inshore/Inland (Appendix 3) or Scientific & Archaeological (Appendix 14)
- Saturation Diving using mixed gas or sometimes air as the breathing medium (Appendix 3)
- Surface supplied mixed gas diving using HELIOX or TRIMIX (see Appendix 11)

3 Organisation and responsibilities

Actions and activities of various personnel can affect the safety of diving operations even though they are not members of the dive team. These include:

- The Client who has placed a contract with a diving contractor to deliver a diving project will usually be the operator or owner of a worksite, proposed or existing installation, pipeline or umbilical where diving work is going to take place, or a principal contractor acting on behalf of the operator or owner. The operator or owner should appoint on-site representative(s) and any such persons should have the necessary experience and knowledge to be competent for this task. The client shall also ensure that all simultaneous activities are managed to ensure the safety of the diving operation.
- The Principal Contractor carrying out work for the client and overseeing the work of the diving contractor according to the contract. When the principal contractor appoints on-site representatives then such persons should have the necessary experience and knowledge to be competent for this task.
- The Worksite, Installation or Offshore Manager who is responsible for the area from, which, or near where, a diving project is being carried out on.
- The Master of a vessel (or floating structure) from which diving is to take place, who controls the vessel and who has overall responsibility for the safety of the vessel and all personnel on it.
- Any other person whose acts or omissions could adversely affect the health and safety of persons engaged in a diving project e.g. Port and Harbour Authorities, Other workscopes in the vicinity, Crane Operators and Maintenance Personnel etc, shall be controlled by procedures to ensure that their tasks and how they undertake them do not affect the safety of the dive team.

4 Pre-award activity

4.1 Project execution

On complex projects where multiple workscopes, other OGP members or multiple contractors are involved, a project execution plan should be produced declaring the processes and arrangements that will apply to that project. The project execution plan is produced by the contractor or OGP member. It should include but not be limited to:

- Project title
- Description of the project including an outline of the workscope and resources
- Project organisation
- Project key personnel with roles and responsibilities
- Lines of communication
- Overview of contract arrangements
- Deliverables and reporting requirements
- Competence assurance processes for individuals and contracted companies
- Regulations, standards and codes to be employed
- Control of work process
- System for the management of change
- Description of the relevant Safety Management Systems (SMSs) and any interfaces
- Risk assessment procedures and the process for reporting safety, business, technical and environmental issues
- Schedule of project risk assessments and safety reviews
- Audit plans and verification processes for contractor management systems, vessels, plant and equipment
- Project plan/schedule with key dates and milestones
- Define HAZID process
- Health, safety and environmental plans, including leading and lagging indicators
- Assurance plans
- Emergency and contingency plans
- Reporting and recording accidents and incidents

4.2 Third party operations

Third parties working on behalf of OGP members, or in areas where a member has a duty of care, have an impact on its operations and its reputation. It is essential that they perform in a manner that is consistent and compatible with the OGP member's policies and business objectives. Third parties include but are not limited to:

- Other OGP members
- Contractors and their subcontractors
- Government organisations
- The military
- Environmental bodies
- Ports, Harbour, Canal's, River Board's / Authorities
- Local community organisations

4.3 Management audits

HSE audits

The purpose of this section is to define the expectations pertaining to auditing Safety Management Systems (SMSs) and interfacing with OGP members.

SMS audit

To ensure suitability of third parties to deliver all functions safely, they should undergo an audit of their SMS.

HSE alignment

Holders of contracts should ensure that their SMS aligns with the OGP member's Health, Safety and Environment (HSE) policies.

Site audits

A requirement for site audits (pre-contract and post-contract award) to assure compliance with stated HSE objectives should be incorporated in the project strategy plan.

For pre-award, the site audits should establish HSE culture for consideration in tender award decisions.

Other site audits should be conducted if there is a perceived risk to delivery of the workscope.

4.4 Interfacing

Holders of contracts should undertake to clearly define the interfaces between the contractor's SMS and the OGP member. This may be via a specific interface or bridging document to demonstrate SMS alignment.

5 Compliance

It is crucial that current international and local legislative standards are complied with in order to ensure a uniform approach to diving activities. Where conflicts arise between international or national requirements and this RP, the more stringent shall take precedence.

National

- National and regional regulatory requirements

International

- International Maritime Organisation IMO (including SOLAS, MARPOL *etc*)
- Port and flag states
- Classification by societies who are members of IACS

Industry guidance

- International Marine Contractors Association (IMCA) current Guidance and Information Notes, including those from AODC and DMAC, are integral to this RP

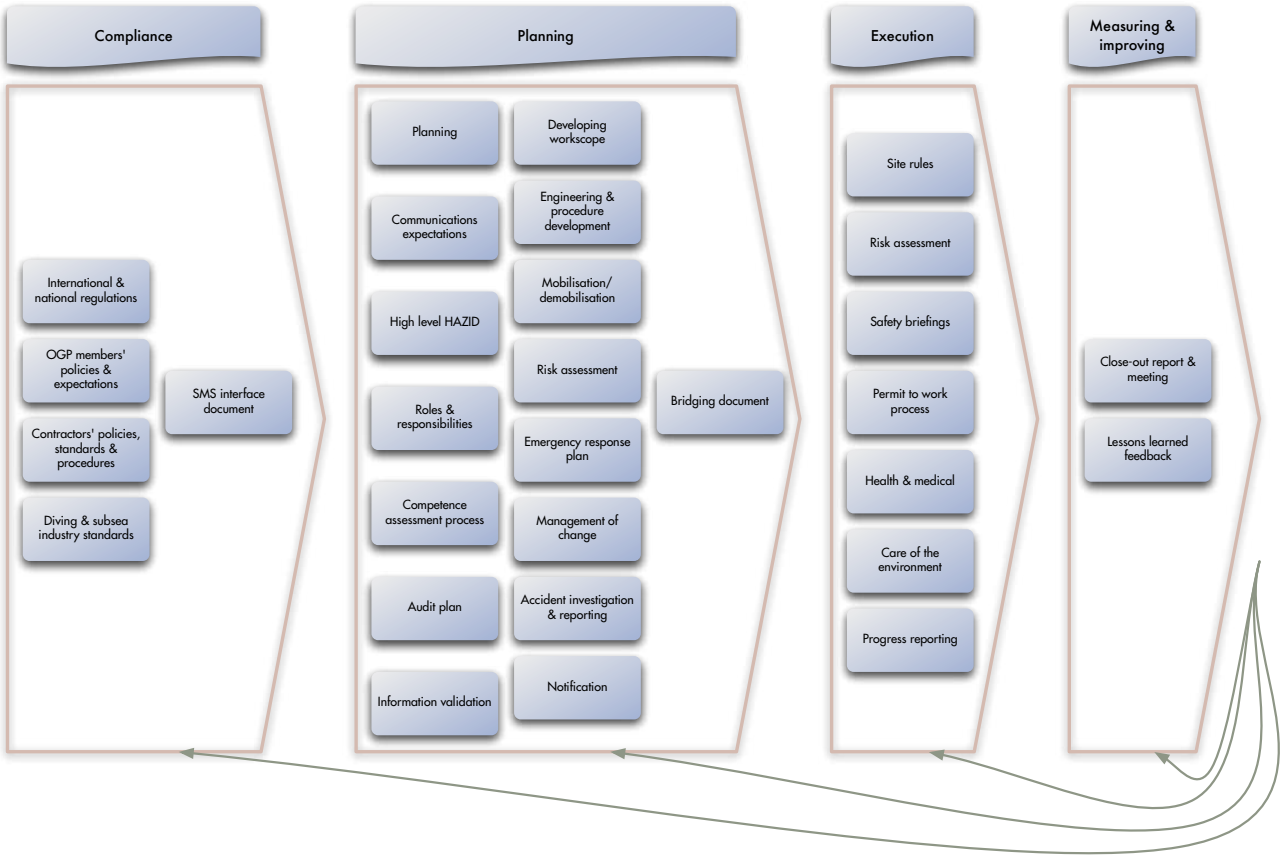
OGP recommended practices and guidance

- HSE *Management – Guidelines for working together in a contract environment* (OGP report reference 291)

6 Planning

6.1 Planning

To provide the assurance that all elements within the planning phase of this RP process are adequately addressed in a reasonable time frame, detailed planning is required. This will provide all parties involved with delivering the project a structured time line of deliverables, any specific HSE initiatives or improvement programme resources (both personnel and equipment) and expectations to work towards.



6.2 Communicate expectations

The purpose of this guidance is to provide contractors with a clear outline understanding of the OGP member's expectations. It is also intended to provide the contractors with an understanding of client's safety culture and of the attitudes they may expect from the client.

The list is neither exhaustive nor specific to any particular job. It may be added to, or updated, depending on new requirements or on the requirements of a particular worksite or project.

6.3 Expectations

The OGP member should expect the contractor to communicate and embed the following expectations within their workforce and subcontractors associated with the work.

Key Expectations	Notes
Health, safety and environment	Consistently emphasise that health, safety and environment comes first.
HSE	Contractor's SMS to be in compliance with the clients.
HSE plan	Contractors are to demonstrate that they have an active HSE plan in place that is directly linked to their SMS. The HSE plan must provide and demonstrate the method of capturing improvements on a regular basis.
HSE performance reporting	The contractor is to measure and monitor HSE input and output performance (leading and trailing indicators) and report on a regular basis based on the clients expectations.
Proactive leadership	The contractor shall be fully committed to and demonstrate a proactive leadership in HSE behaviour and management.
HSE behaviours	Communicate expectations regarding individual HSE behaviours and attitude.
Roles, responsibilities and authorities	Everyone should be aware of and understand their roles, responsibilities and authorities.
Training	Ensure that training is available for all essential HSE skills.
Environment	Encourage the efficient use of energy, the minimisation and management of waste and the prevention of pollution.
Engagement and accountability	The contractor shall clearly define expectations, commitments, roles and accountabilities for all personnel, including all subcontractors and third-party companies. Contractors shall have clear and effective methods for engaging the whole workforce in all aspects of HSE management. Everyone has the obligation to stop work if they feel it is unsafe. Reinforce and demonstrate OGP member's commitment and individual safety accountabilities. Encourage the reporting of unsafe acts and conditions, near misses, dangerous occurrences and accidents.
Site standards	Contractors shall have clear and highly visible site standards. All personnel are to be fully knowledgeable of the site standards applicable to their work area.
Safety assurance	Contractors shall have detailed assurance processes in place for all vessels and worksites. Client assurance processes will be applied to certain activities as appropriate (such as vessel and project preparation assurance).
Engineering and procedure assurance and compliance	The contractor shall apply rigorous assurance processes to all engineering and procedural activities to ensure safe and effective implementation of workscopes. A systematic procedure for the control of deviations from approved procedures which includes formal re-assessment of risk as an integral component, is required
Incident reporting	The contractor is to ensure prompt reporting of all accidents, incidents or near-miss events in compliance with clientís expectations. Encourage the reporting of unsafe acts.

6.4 HAZID

A HAZID should be completed shortly after the work requirements and vessel have been identified. This is not intended to replace or be used in conjunction with any of the standard process RAs.

A small group that possess the range of experiences capable of understanding all aspects associated with the upcoming workscope should perform the HAZID.

The objectives of the HAZID are to:

- Stand apart from the normal risk assessment processes in order to take a very high-level overview of the upcoming workscope and its associated management, interfaces, procedures and hardware
- Identify any key or specific areas of risk that may not be covered, or may be covered inadequately, in the routine project risk assessment process (*eg* key changes, new equipment, new techniques, vessels or equipment with suspect history and outstanding restrictions, class notations or non conformances *etc*)
- Generally provide a very open forum where any areas of concern can be highlighted, candidly discussed and nominated for further detailed attention if necessary
- Specifically define requirements for specialist personnel (*eg* vessel master, diving, DP, marine, lifting specialists *etc*)
- Local area constraints

Adverse weather working

It is not possible to control weather and other environmental conditions. Specific local conditions must be considered in design, engineering and operational activities, and contingency plans must be developed in order to provide the best opportunity of completing the work safely and effectively.

Extreme environment and weather will often affect vessel productivity and can influence personal safety. The Vessel Master is always accountable for the safety of the vessel and all personnel onboard and, as such, for the decision to continue to remain on station, to stand by or to run for port.

In order to make decisions regarding performing specific activities, it is important that these are assessed for weather criticality at the procedure design stage and risk assessed accordingly. An obvious example of such activities is marine/subsea lifts. These should be assessed, sea states and frequencies for their implementation calculated, and these considered in all stages of the risk assessment.

Contingency plans should be developed to allow work to proceed or to achieve completion or safe abortion of a task should the weather change, e.g. it is often appropriate to use lift bags rather than a vessel crane to achieve a safe subsea lift. Other factors may influence the continuation of some activities in adverse weather such as water on decks, ice, ability to launch ROVs and diving bells.

Timing of work activities should be planned around the weather. Sometimes it may be advantageous to 'wet store' large items on the seabed during a good weather spell so that work can continue when the weather worsens.

It is not always poor weather which precludes work activity. Flaring from a vessel can only take place when there is sufficient wind to blow the flare clear of the vessel. Similarly, Installation gas detectors may be activated by diesel exhausts when vessels are working close alongside with no wind. Visual ROV survey is often stopped owing to poor subsea visibility. Some subsea current can improve this situation.

6.5 Roles & responsibilities

The roles and responsibilities of all key personnel involved in the management and control of a diving operation should be clearly defined.

Key personnel include the following. These key personnel and their responsibilities should be declared in the Project Bridging Document.

6.5.1 Contractor Personnel

- Contractor's Project Manager
- Construction Manager/Superintendent
- Contractor's Project Worksite Representative
- Vessel Master
- Contractor's Supervisor/s

6.5.2 Worksite Representative roles and responsibilities

The purpose of this section is to describe the responsibilities and duties of personnel representing OGP members in the safe management of diving operations.

In general, Worksite Representatives are involved in assurance activities during normal operations.

The contractor is responsible for performing all elements of the work and the responsibilities of the contractor should be such that, should a Worksite Representative not be present, the work is able to progress normally.

Roles and responsibilities are not written to establish demarcation lines between individuals, or to detract from the collective responsibility of:

- The onshore/worksite management teams
- Teamwork within OGP organistion
- Teamwork within contractors

A competency assessment process must have been completed on all personnel who are allocated responsibilities and duties.

The OGP member or its representatives will maintain training and competency records for personnel that are used as offshore representatives.

There are a number of assurance activities at a diving operation worksite that may be allocated to OGP member-approved competent persons, depending on OGP member assessment of the need based on risk and added value.

The OGP Project Manager should nominate individuals to perform one or more duties, dependent on the individual's competency.

Responsibilities and duties may be transferred during the course of a project. Competency must be assured when transferring responsibilities.

Where required, Worksite Representatives must also be in possession of the following :

- Medical certificate
- Survival certificate
- Passport
- Letter of insurance liability (if appropriate) or recognised equivalents

6.5.3 Worksite Representative duties

Safety

- Ensure that the contractor, his staff and his subcontractors have received adequate instruction, familiarisation and training in OGP member requirements, national or applicable regulations, policies, procedures and any special or unusual hazards
- Ensure contractor awareness, comprehension and compliance with:
  - International and local legislative requirements
  - OGP member policies, practices and procedures
  - Contractor policies, practices and procedures
  - Marine procedures
  - Field and approach charts
  - Local rules
  - Emergency Procedures and preparedness
- Be knowledgeable of:
  - Worksite hazards, communications, local working practices, logistics and emergency procedures
- Ensure contractor and worksite management have received and reviewed the workscope and the project bridging document
- All emergencies, accidents, incidents and uncontrolled events are reported and investigated as appropriate. Act as OGP member focus during any emergency. Complete all necessary reports.

Contractual

- Have suitable familiarity with the contract
- Act as the focal point for OGP member worksite activities
- Issue all formal site instructions/directions to the contractor on behalf of OGP member
- Ensure contractor compliance with contract
- Be responsible for any offshore contract administration
- Monitor scope variations and cost control system
- Keep a log of events, instructions and communications

Assurance

The Worksite Representative must ensure that:

- Formal risk assessments have been conducted for each stage of the work, and the risk-reducing measures identified in HAZIDs and procedures are implemented before work tasks commence
- Management of change procedures are implemented
- Necessary assurance activities are completed
- Relevant certification has been audited and checked by an Independent Competent Person
- By regular monitoring of work activities, safe diving, working practices including suitable rest periods are adhered to by the contractor in accordance with legislation, industry guidance and contractors approved diving and other procedures
- Safety meetings are held on a regular basis over the duration of the programme, with a copy of the minutes passed to the OGP member
- Regular worksite meetings are held with the contractor to address progress, planning and engineering issues

Operational

- Ensure works are performed in accordance with approved procedures
- Ensure regular communication is maintained with key personel at worksite, installation, terminal, port, harbour, river, canal boards or authorities *etc*
- Adequate records and logs of events are maintained
- Reporting of job progress and operational issues is made to the relevant personnel onshore and offshore
- Facilitate issue and acceptance of Permit to Work System

Competence

The Worksite Representative must be assessed through a competence assessment process for the workscope/worksite and position as being competent in the following areas:

- Have a minimum of 2 years experience, preferably 5 years, at an inshore/offshore worksite
- Have attended formal risk assessment training
- Have completed a OGP member permit to work course
- Have competence and training in, where necessary, relevant OGP member and industry HSE processes/practices
- Be knowledgeable in the following:
  - OGP member policies, practices and procedures
  - Relevant and appropriate discipline legislation and industry guidance
  - Contract between OGP member and diving contractor
  - SMS interface document (OGP member/contractor)
  - Mechanical and physiological aspects of diving

6.6 Competence assessment process

During execution of the work, the OGP Member must monitor the continued competence of the contractor. This refers to any associated training commitment undertaken. Where necessary, the company should also determine if any additional competence assurance is needed as a result of local circumstances. Monitoring should include a verification that the contractor complies with his management system that may include:

- Competence and close monitoring of the replacement of personnel
- Provision of the necessary induction courses
- Training of contractor personnel in job related activities and procedures
- Completion of all agreed upon HSE training, including any specified statutory training requirements
- Availability of HSE documents, instruction and information leaflets with special attention to use of local language reinforced with simple visual messages

6.7 Audit plan

6.7.1 Vessel/worksite project assurance plan

An audit process that, as a minimum, applies OGP member and industry standards should be undertaken before diving operations commence.

The assurance plan may include, but is not limited to, the following:

- IMCA/UKOOA Common Marine Inspection Document overview
- Vessel/worksite HSE audit
- Diving equipment systems audit
- Project equipment FMEA/FMECA audits
- Remotely Operated Vehicle (ROV) systems audit
- Survey systems audit
- Environmental audit
- OGP member policies, standards or procedures
- Lifting appurtenance inspection and wire assurance
- Structural and mechanical integrity of all lifting
- PTW and isolations
- Working at height
- Rotating machinery
- Chemical and other substances hazardous to health

6.7.2 Vessel/worksite inspection

The vessel/worksite inspection should address items such as:

- Project equipment, product and associated component sea-fastenings
- Final deck/worksite equipment layout
- Ergonomic factors involved in carrying out the workscope
- Trip and other hazards
- Access and egress routes for executing the work and for emergencies
- Emergency and contingency planning
- The provision of access to emergency equipment
- Environmental contingency spill kit provision

In cases where the mobilisation has been successfully completed in accordance with a well-developed and risk-assessed plan, there is often little to do for the final inspection. In other circumstances, the inspection provides an important final hold point for approving the readiness to commence work.

6.7.3 IMCA Common Marine Inspection Document overview

The IMCA Common Marine Inspection Document (CMID) audit checklist aims to reduce the number of client audits of contracted vessels.

Once an audit is performed in accordance with the guidelines, vessel owners are expected to make a copy available to clients, along with statements of any corrective action taken, ongoing work or outstanding issues.

The document contains an extensive set of definitions and abbreviations, an explanation of the inspection process and a report summary and distribution list. It also includes a selection of generic inspection sheets and a section dedicated to specialist vessel inspection. These contain the following chapters:

- Generic section
  - Previous inspections
  - Vessel particulars
  - Certification, documentation
  - Crew management
  - Bridge, navigation and communications equipment
  - Safety management
  - Pollution prevention
  - Structural condition
  - Life-saving appliances
  - Fire fighting
  - Mooring
  - Machinery spaces and plant (including ballast systems)
  - General appearance and condition (including accommodation, public rooms, galley)
  - Hazards – slips, trips and falls
- Specialist vessel sections
  - Dynamic Positioning (DP) vessel supplement
  - Diving vessel supplement
  - Remotely Operated Vehicle (ROV) vessel supplement
  - Helicopter supplement

There are certain key components that the CMID does not contain. It is the responsibility of individual OGP members to ensure that where these instances may occur, provision is made for additional auditing with a contractual obligation for rectification included in the contract.

1. Specific client or project requirements are not addressed, *eg* specific manning requirements, topical surveys such as wire assurance or ladder surveys; these are addressed as part of the vessel assurance surveys.
2. The supplement covering specialist vessels is brief and covers only the salient marine points.
3. The helicopter section is brief and some items need to be checked more frequently than the annual IMCA/ audit (*eg* helideck crew training and competence).
4. The CMID process audits the vessel against the requirements of Flag State or Class Society. For OGP members executing projects globally, the CMID may not cover safety critical equipment, *eg* cranes may be excluded from Class, or may not be required to be under a certification scheme.

Summary

It used to be the function of each companyís marine department to audit every vessel. This system has been replaced by the present, widely accepted system.

The document is very comprehensive and generally works well within the limitations noted above. However, the HAZID will need to capture those items not covered or covered to a lesser extent than OGP member expectations.

6.7.4 Vessel/worksite HSE audit

It is advisable that a safety audit should be conducted on vessels and worksites which are either new to OGP members or which have not been used for any significant period.

The following is a list of subject prompts that may be used during an audit.

It should be noted that the intention of the vessel/worksite visit is to keep an open mind – a strict checklist approach may not be the most appropriate utilisation of the time available.

- Personnel Onboard (POB)/Worksite monitoring in port and quayside security
- Vessel/worksite induction system
- Vessel/worksite safety booklet
- SMS
- Safety performance
- Site standards
- Personal Protective Equipment (PPE)
- Permit to Work System
- Electrical work and isolation procedures
- Risk assessment and task risk assessments
- Toolbox talks
- HSE inspections
- Emergency response training
- Safety meetings
- HSE inputs, outputs and incident reporting
- Accident investigation
- HSE training
- Competence assurance
- Hazard observation card observation system
- Safety Training Observation Programme (STOP) and Time Out for Safety (TOFS) culture or similar processes
- Crane operations
- Lifting operations
- Control of substances hazardous to health or similar system
- Burning gas storage
- Trip hazards and ankle snapper tour
- DP issues: general/manning levels/qualifications
- Deck manning level
- Waste management
- Oil spill response
- Personnel transfer
- Safety around lines under tension

6.7.5 Diving equipment systems audit

Before being accepted as 'fit for purpose', all diving plant and equipment used at an OGP member's contract must have:

- An IMCA Diving Equipment Systems Inspection Guidance Note (DESIGN) standard audit (usually self-audited by the contractor). Four DESIGN documents are currently available:
  - DESIGN D023 – Surface Orientated Diving Systems
  - DESIGN D024 – Saturation Diving Systems
  - DESIGN D037 – Surface Supplied Mixed-Gas Diving Systems
  - DESIGN D040 – Mobile/Portable Surface Supplied Systems
- A third-party approval of the DESIGN audit (within the previous 12 months for fixed systems) and/or approval by an OGP member diving specialist. Additionally, operators may undertake spot, theme or full audits at any time and the results of these should be considered.
- Diving systems must have been designed and built to an approved standard.
- Saturation systems must be supported with a current Failure Mode Effect Analysis (FMEA) document and all new diving systems shall be designed, fabricated and maintained in class.

6.7.6 Project equipment FMEA and FMECA audits

FMECA versus FMEA

FMEA is a requirement under class and is system focussed as opposed to a full FMECA which is sub system focussed and consequently more detailed. What an FMEA can therefore fail to identify are specific component interactions and their failure modes/consequences, for example diving systems, power management systems, cranes J lay systems, *etc*.

The expertise required to review and interpret the results of FMECA/FMEAs for vessel deployment equipment and DP systems is not necessarily the same. Qualified, competent auditors who have a detailed theoretical and practical experience base in the system being audited must be employed.

Failure Mode, Effects and Criticality Analysis

Where operations are planned that involve complex vessel systems it is recommended that an appropriate Failure Mode, Effects and Criticality Analysis (FMECA) is in place. This should either be conducted specifically for the upcoming operations or a previously completed FMECA can be employed as long as it is carefully reviewed with full respect to the proposed workscope.

Some vessel systems where a FMECA is likely to be appropriate are:

- Vertical and horizontal pipe or umbilical tensioner lay systems
- Vessel DP Systems used for the deployment of divers. Note: diving operations should not be performed from a vessel that is not as a minimum IMO Class 2. For this class of vessel, a current, Class approved FMEA with any findings or issues closed is mandatory
- Subsea habitats

FMECA objectives

The objective of the FMECA process is to identify the possible consequences of any potential system failure modes on:

- The safety of personnel
- Any environmental impact
- The potential for plant or equipment damage
- Impact to the project programme

Whilst the safety of personnel is usually well catered for under the standard risk assessment processes, it should be noted that an effective FMECA may actually remove potentially difficult repair activities or identify more suitable alternative courses of action should a failure occur.

FMECA benefits

The output from the FMECA process provides practical engineering and planning support to projected workscopes. As a minimum, it will sharpen the focus on failure criticality and improve the project's ability to plan appropriately and it is not unusual for a FMECA to significantly change a project's contingency or spares policies.

The key benefits are:

- Improved operational awareness through identification of the most failure critical aspects of the work programme
- Accurate identification of programme contingency options and enhanced contingency planning
- Improved and more failure-specific spares management policy

The FMECA process

The FMECA process can be carried out at system, subsystem or component level. Generally it is appropriate to go to subsystem and major component level for diving project activities due to vessel costs and project impact.

FMECAs should be carried out as a formalised process. An outline of this process is as follows:

- Identify the systems or subsystems involved
- Identify the failure modes
- Identify the possible failure causes (this may involve a review at component level)
- Carry out probability and severity reviews (this may take the form of discussion notes)
- Using probability and severity ratings produce a criticality rating
- Develop mitigations as appropriate
- Carry out the mitigation recommendations
- Publish the results to ensure team awareness

6.7.7 ROV systems audit

This audit document is based on the IMCA Standard ROV Audit Document No IMCA R 006.

The audit covers:

- ROVs
- Tooling
- Interfacing
- All the support systems and the relevant procedural documentation

The audit proforma is typically passed to the contractor to complete in the first instance. The OGP member auditor should review the contractorís findings and focus on any areas requiring further attention.

6.8 Information validation

A system shall be in place to ensure that all information on the worksite is current and valid. Key documents with the latest revisions should be listed in the bridging document or a referenced document register.

6.9 Workscope and procedures

Workscope must be clearly defined in order to facilitate timely preparation and issue of procedures.

Procedures should be written in compliance with the OGP member, the contractors and legislative expectations, policies and practices, and incorporate industry best practice.

Hold points should be included in procedures where there is a requirement for specific signed authorisation for work to continue (*eg* completion of conference toolbox talk, identification of subsea equipment, valves, flanges *etc* and receipt of key documentation such as permits and isolation certificates *etc*).

The responsibility for the production and issue of competent procedures lies with the contractor.

The schedule for procedure production shall allow for:

- Review and comment on draft prior to Stage 1 risk assessment
- Final review, approval and issue for construction before work can commence
- Development of lift plans and their review by OGP member mechanical handling and/or marine engineering contractors before work can commence

6.10 Mobilisation/demobilisation planning

6.10.1 Mobilisation initiative

A high proportion of incidents occur during mobilisation and demobilisation. The following recommendations are made:

1. Vessel/worksite assurance plans should be drawn up at an early stage to provide clear guidance on requirements.
2. Safety awareness should be increased among personnel by ensuring that subcontractor companies receive the client's safety expectations at an early stage.
3. Increase efficiency of the mobilisation by assisting the provision of adequate and realistic information to contractor personnel, subcontractors, marine and worksite personnel as early as practicable.
4. Feed lessons learned from previous projects into the project planning at an early stage and show personnel that their efforts and ideas are implemented.
5. Provide personnel joining the vessel/worksite with a positive message by producing plans that have no surprises and that demonstrate that management has researched the project thoroughly. This will give personnel a positive frame of mind in which to work that will naturally follow through to the offshore phase and to demob and will, through time, improve the culture and behaviour of the personnel.
6. Improve vessel/worksite access control and management. This is key to both security and, more importantly, provide a means of managing and tracking personnel in case of emergency.
7. Improve subcontractor alignment and participation in mobilisation initiatives, preplanning meetings and safety expectations.
8. Implement a robust lessons learned process within each contractor organisation.
9. Treat mobilisations and demobs separately from the main project activity with regard to safety performance and safety focus.
10. All contractor companies should emphasise their safety expectations to ALL parties (*ie* to their workforce, their client and their subcontractors).

6.10.2 Mobilisation plan

The contractor's process for managing mobilisations should be in place and open to audit.

The plan should ensure that the mobilisation is carried out in a safe, efficient and timely manner. It involves a review of the workscope objectives followed by detailed engineering and logistics preplanning, complete with the accompanying risk assessments and assurance processes.

The mobilisation plan will address such items as:

- The project workscope
- Pre-mobilisation meetings
- Third-party contractor audits
- Site safety planning and auditing
- Project HSE plan review
- Designation of responsibilities
- Third-party contractor integration and management during the mobilisation
- Vessel/worksite deck plans: proposed and final
- Detailed mobilisation schedule including the equipment mobilisation sequence and the supporting logistical requirements
- Management of change during the mobilisation
- Communications during the mobilisation
- Project and vessel/worksite inductions
- The onboard management of non-vessel personnel
- Emergency and contingency plans
- Availability of all required documentation

There may be a requirement for a documented acceptance and sign-off process by the main contractor, client and some of the third-party companies in the mobilisation.

6.11 Demobilisation plan

The contractor's process for managing demobilisations should be in place and open to audit.

The plan should ensure that the demobilisation is carried out in a safe, efficient and timely manner. It involves engineering and logistics preplanning, complete with the accompanying risk assessments.

The demobilisation plan will address such items as:

- Demobilisation meetings
- Third-party contractor audits
- Site safety planning
- Project HSE plan review
- Designation of responsibilities
- Third-party contractor integration and management during the demobilisation
- Vessel/worksite deck plans: current and final
- Detailed demobilisation schedule including the equipment demobilisation sequence and the supporting logistical requirements
- Management of change during the demobilisation
- Communications during the demobilisation

- Vessel/worksite inductions
- The onboard management of non-vessel personnel
- Emergency and contingency plans
- Capturing of as-built and other key project deliverables
- Performance data

There may be a requirement for a documented acceptance and sign off process by the main contractor, client and some of the third-party companies during the demobilisation.

6.12 Risk assessment

6.12.1 Risk assessment requirements

Reasons

All tasks should be subject to a risk assessment. This is to identify the hazards present, assess the risks involved, and identify the controls and precautions necessary to undertake these tasks safely.

Responsibility

The diving contractor who is accountable for the work has the responsibility for the risk assessment. If, after the initial risk assessment, the contractor is changed for any reason, then the new contractor must re-risk assess the work.

Personnel involved

The risk assessment should be attended by any party whose acts or omissions could adversely affect the:

- Health and safety of persons engaged in the project
- Environment
- Contractor's/company's assets
- Operational/execution performance

It is essential that the necessary personnel are available for all phases of the risk assessment. As examples, this can include personnel from the following:

- Operations, installation, worksite, area management with intimate local knowledge of the management and control systems which are to be utilised during the work
- Subcontractors (*eg* commissioning, pumping, rock dumping, grouting, survey, dredging, crane, haulage, security *etc*)
- Specialists (*eg* marine, aviation, diving, lifting *etc*)
- Third-party operators (including drill rigs, accommodation, other operators)

If the correct personnel are not present then the risk assessment should not go ahead. All personnel present should be competent in the area of expertise they are providing. All those involved in the risk assessment must contribute fully to the process.

Content of risk assessment

All aspects of the work including the mobilisation, demobilisation, onshore trials and transit to site must be risk assessed.

Some areas of the work may be covered by so-called 'generic procedures' (*eg* laying concrete mats, water blasting *etc*). These procedures must be examined as part of the overall risk assessment unless it can be shown that they have been independently risk assessed.

If this is the case, the generic procedure and its associated independent risk assessment must be available for review during the job-specific risk assessment. The risk assessment team must ensure that the

generic procedure is applicable to the work in hand and any variations are identified and included as part of the overall risk assessment.

Where the same activities have been carried out previously it is permissible to use previous risk assessments as guidance only.

Timing of risk assessment

Risk assessments should be carried out in good time. For normal planned operations the Stage 1 risk assessment should be completed prior to the scheduled work. This allows time for the control/mitigating measures to be implemented. For more urgent work the timescale for the planning phase may be much shorter. However, the risk assessment process must still proceed even if this means delaying implementation.

All procedures must be at least at the 'final draft' stage including internal and external checks prior to the Stage 1 risk assessment.

6.12.2 Risk assessment stages

In the subsea sector the preliminary hazard risk assessment process comprises three phases or levels:

Stage 1 – Onshore Risk Assessment (sometimes known as a HIRA (Hazard Identification and Risk Assessment))

All activities covered by workscopes and generic and specific procedures must be subject to a formal risk assessment process during the onshore planning phase. The process will identify any requirement to change the workscope and procedures and/or any mitigating measures to be applied. The process shall be as defined in the diving contractor's SMS and will include active involvement from all parties whose acts or omissions could adversely affect the health and safety of persons engaged in the project or could affect plant, equipment or the environment.

Stage 2 – Onsite Risk Assessment

These are carried out by personnel directly involved in the supervision of the work, whose acts or omissions could adversely affect the health of persons engaged on the project. As a minimum, they should review the onshore Stage 1 Risk Assessment, generic risk assessments and job safety analyses using these as a starting point for the Stage 2 Risk Assessment. A Stage 2 Risk Assessment must be conducted for all elements of the project including routine maintenance activities.

Stage 3 – Toolbox Talk

This is a review and discussion immediately prior to the work taking place. It will include a final review of the risks involved by all participants. An outline record of the toolbox talk, its outcomes and attendees should be made.

Conference Toolbox Talk

Where the work involves a connected action between remote sites *eg* an Installation and a vessel (*ie* the Installation is involved with, has the ability to influence or could be impacted by the activities), joint 'conference' toolbox talks involving key personnel at both locations shall be arranged before the commencement of each section of work.

Key personnel shall comprise those with responsibilities under the local Permit to Work System (PTW) (*ie* Installation Area Authority and Vessel Performing Authority) and those with direct responsibility for the work (*eg* Installation OIM, Installation Technical Representative, Vessel Shift Supervisor, contractor Project Engineer, technical specialist).

6.13 Emergency response plan

6.13.1 Emergency response guidelines

Site specific contingency plans supported by risk assessments must be in place, for all foreseeable emergencies, to provide reference to personnel that have responsibility or involvement in a diving project in the event of an emergency.

Examples that should be considered and, if required, extended:

- Recovery of an injured/unconscious diver from working depth to a safe place for treatment, and consequential medical treatment
- Decompression illness and the treatment of it
- Hyperbaric Evacuation to a safe refuge and decompression to surface
- Diving in contaminated waters
- Recompression contingency arrangements where the primary site is compromised in an emergency during surface supplied diving operations
- Medical treatment facilities identified in remote areas

Contingency and response plans, together with callout procedures, should be exercised regularly by OGP members, the diving contractor, other operators and key parties.

6.14 Management of change

There must be a formal, documented Management of Change (MOC) process which is acceptable to the OGP member. The Management of Change process will define how change is implemented, who is authorised to approve levels of change and how any appropriate risk-reducing measures are applied. The approval levels for MOC shall be defined in the Project Bridging Document.

6.15 Accident investigation and reporting

An agreed system of accident, incident and near miss reporting must be implemented to ensure that legislative, OGP member and the contractors' reporting requirements are met. All health, safety, technical integrity and environmental incidents including near misses shall be openly reported, investigated and documented in order to analyse and learn from the incident. The objective of such reporting is to ascertain root causes and not to apportion blame.

Major incidents are to be investigated by a multi-functional team with independent participation and leadership. An agreed suitable root cause investigation methodology should be utilised. Furthermore, investigation updates, reports and action closeouts should be carried out in a timely fashion.

6.16 Notification

Good communications are key to conducting safe diving operations. Key parties must be notified and updated regularly as situations change. Notifications may be in relation to safety, performance, progress, or engineering issues. Key parties include, but are not limited to:

- Those identified as key in the Project Strategy or Bridging Document
- Single point accountability, *ie* project and single point authorities
- Worksite, OIM and/or control rooms of Installations and other vessel offshore managers
- Emergency response centres
- External authorities, federations and other regulatory bodies
- Onshore terminal control rooms

6.17 Bridging document

No diving operation should commence until an authorised bridging document has been issued. The object of the Bridging Document is to link or bridge the management control processes of the OGP Member, Worksite, third parties where appropriate and the contractors' safety management systems (SMSs) to clarify the procedures and processes that will be adhered to at that worksite. It is the responsibility of the contractor to produce the project bridging document.

A bridging document will be required to cover the whole of the work. Key personnel and response organisations should receive controlled copies.

The contents of a bridging document should include, or reference, but are not limited to the following:

- Project title and revision status
- Circulation list and authorisation signatures
- Project overview including dates and contract arrangements
- Identification of the relevant workscopes and procedures
- Identification and allocation of key personnel roles and responsibilities
- Communication contact numbers for key personnel and worksites
- Management of change process, and identification of approval levels
- Emergency and contingency procedures including clarification of primacy
- List of referenced documentation including revision status
- Work control system
- Applicable permit to work system for the intended work
- Combined marine operations
- Field logistics and support
- Helicopter operations

7 Execution

7.1 Site rules (worksite)

Site rules that define the specific arrangements to manage and control diving operations safely shall be in place for all worksites.

Note 1: Site rules should not be confused with the contractors' worksite 'Site Rules'.

Note 2: Site rules may extend 500m from some worksites eg *exclusion zones.*

7.2 Risk assessment

Stage 1: Onshore Risk Assessment

Refer to Paragraph 6.12

Stage 2: Onsite Risk Assessments

These are carried out by personnel directly involved in the supervision of the work, whose acts or omissions could adversely affect the health of persons engaged on the project. As a minimum, they should review the onshore Stage 1 Risk Assessment, generic risk assessments and any other safety analyses. A Stage 2 Risk Assessment must be conducted for all elements of the project including routine maintenance activities.

Stage 3: Toolbox Talk

This is a review and discussion immediately prior to the work taking place. It will include a final review of the risks involved by all participants. An outline record of the toolbox talk, its outcomes and attendees should be made.

Conference Toolbox Talks

Where a task involves interaction between remote sites *eg* an Installation and a vessel, joint 'conference' toolbox talks involving key personnel at both locations, shall be arranged before the commencement of each section of work.

7.3 Safety briefings

Briefings on OGP member expectations, policies and practices are to be given to all personnel involved in the project, including marine crew and third parties. A system of general safety briefings, safety meetings and toolbox talks must be carried out and recorded. Appropriate site orientation, induction and project-specific training including site rules and emergency procedures shall be undertaken to clarify roles, responsibilities and actions. All personnel should attend the briefings and training, and a register should be maintained.

7.4 Permit To Work process

A formal permit to work system must be in place to manage diving operations, for example a permit-to-work system between the diving team, the Worksite/Installation Manager and/or the master.

The system places responsibilities on key individuals involved in the diving operation, both on the controlling Worksite/Installation and on the contractor's vessel for issue, compliance with, and closure of the work control system.

7.5 Health and medical care

The contractor will comply with occupational health arrangements as required by legislation, OGP member and the contractor's standards.

The diving contractor Medic/Nurse/Doctor will provide first aid and emergency treatment onsite. The OGP member will assist with evacuation from the site, as necessary.

The contractor will take responsibility for their injured/ill or medically incapacitated personnel on arrival at the heliport, port or medical centre, as appropriate.

Contractors and their medical providers should co-operate with OGP member regarding case management and return to work.

7.6 Care of the environment

OGP members and contractor personnel must comply with standards of the country of operation, OGP and contractor corporate policies, and site rules.

Each contractor or project shall establish a strategy and management plan to ensure that there is no damage to the environment from their operation.

The accountabilities for delivering management plans should be clearly defined for all areas of operation.

7.7 Progress reporting

It is essential that progress is reported regularly and consistently throughout the life of the project, thus ensuring that all those involved, or with an interest in the project, are kept up-to-date and informed of current issues or changes. This applies equally to long-term projects and service call-offs, and to short duration operations. Progress reporting can be achieved through meetings, telephone conversations and written reports. The frequency and timing of these will depend on the nature of the project, service or operation. All meetings and teleconferences should have standard agendas and be documented. Additional ad hoc meetings and reporting will also be required to address one-off issues or specific areas of interest, *eg* management of change, engineering, response to incident, serious integrity issues *etc*. The following paragraphs suggest a progress reporting systems and expectations for diving operations. It is expected that these will be modified to meet individual project or operation requirements.

7.8 Operations/projects progress reporting

A process of regular communication between key OGP member and contractor personnel shall be in place to report project progress including safety, operational, technical, commercial and contractual issues. Meetings will be attended by OGP member and Contractor Project Manager supported by others as required. Meetings shall have agendas and outcomes documented.

7.8.1 HSE performance reporting

During operations, a process for communicating safety performance in terms of 'inputs' and 'outputs' shall exist. The process shall enable reporting on a weekly basis as a minimum. The reporting shall be suitable to enable the identification of trends for analysis and initiation of appropriate interventions.

The 'inputs' shall record areas of workforce and management participation in safety alongside the recording of observed unsafe or safe conditions/acts.

The 'outputs' shall cover the range of incidents ranging from high, medium and low potential near misses, days away from work cases, recordable injuries, and first aid cases (these input/output examples are not exhaustive – other measures may be added as required by project requirements).

7.8.2 Health, safety and environmental performance monitoring and reporting

OGP members have an interest in the safety performance of vessels and contractors that are used (or likely to be used) on their contracts both whilst they are actually engaged in work or while performing work for other operators.

This paragraph suggests expectations on monitoring, reporting and reviewing of health, safety and environmental measures associated with contractor companies and their associated operations.

Measures are described as 'input measures' (also known as 'leading indicators') when actions are proactive in nature in an effort to prevent the occurrence of incidents. Measures are also described as 'output measures' (or also known as 'lagging indicators') when they are used to report incidents that have occurred.

The process of monitoring and reporting should meet the following key objectives:

- Provide timely focus on measures in order to enable rapid and direct influence on the activities concerned
- Identify trends in order to determine whether any intervention or changes should be introduced by the contractor or by OGP members
- Provide records of HSE performance which may assist in establishing goals for future performance
- OGP members must have a system to notify, investigate, record and report incidents and also to feedback to OGP

7.8.3 Incident management

When incidents occur it is important that they are managed in a consistent manner. This section suggests a process for the management of incidents involving diving contractors whether they occur on contractor or OGP member managed sites. The process and expectations also apply to contractors contracted by third parties when they are working on equipment and in areas controlled by the OGP member (*ie* within OGP member sphere of influence).

Additionally, and in the interests of shared learning and continuous improvement, contractors are expected to advise OGP members of any significant incidents that occur on any of their operations and to follow this up with safety flashes, investigation reports and lessons learned as they become available.

The objective for the incident management process is to ensure the following:

- Care, treatment and rehabilitation of any injured parties
- A rapid communication of the incident to all interested parties
- Reporting of the incident to relevant authorities if necessary
- Clear definition of accountability for incident investigation and reporting
- Timely investigation of the incident to establish root causes and evaluate actions to prevent recurrence
- Timely restart of work
- Evaluation and distribution of lessons learned
- Consistent recording and tracking of incident details and actions

8 Measuring and improving

8.1 Closeout report guidance

A closeout meeting should take place as soon as possible (preferably within 2 weeks) after demobilisation, or for extended operations, at regular intervals (not greater than 3 months).

The agenda should include but not be limited to:

- Review of events
- Closeout of any accidents, incidents and near misses
- Recommendations for corrective actions
- Confirmation of project final status
- Confirmation of the provision of as-built and closeout documentation
- Lessons learned
- Any other business

Appendix 1 Atmospheric diving suit

Title	Atmospheric Diving Suit – ADS
Definition	A tethered one man submersible in which the operators arms or arms and legs, move inside articulated joints to provide the effort to carry out the underwater task As the operator is not subject to a pressure greater than 100 millibars above atmospheric pressure, this is technique classed as Manned Intervention
Scope	Use of ADS suits avoids the need for decompression to atmospheric pressure at the end of each diving operation. ADS systems have worked in depths >300msw There are a variety of ADS systems, with no one being described as typical
Minimum team size and competence	Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example engineers or vessel maintenance technicians (Refer to AODC 022)
Equipment	• The contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • Refer to AODC 022
Operational factors	• Deployment vessel or sufficient lay-down area on rig or platform • Team size smaller than saturation dive teams • No decompression penalties • Slow operational productive work rate • Agility limited in congested subsea areas • Can become fouled or damage subsea infrastructure • Requires high maintenance • Deployment and recovery limited by environmental forces
Emergency & contingency	• Problems with surface deployment vessel, rig or platform • May require additional surface vessel to provide emergency support • Major problems with deployment unit while ADS in water • Umbilical severance or entanglement • Onboard fire or flooding • Stuck in soft seabed conditions • Need for independent on-board life support services • Need for two operational ADS working at all times, one to assist other • High emphasis on back-up and redundancy

Appendix 2 Habitat

Title	Habitats
Definition	A 'dry' subsea compartment located on seabed or structure to support divers whilst repairing pipelines or structures. Divers enter the Habitat by either mating a bell, or through water transfer There is a wide variety of habitats, with no one being described as typical
Scope	Used principally for hyperbaric cutting and welding in all depth ranges
Minimum team size and competence	• Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example engineers or vessel maintenance technicians • Approved coded hyperbaric welder divers and inspectors for the task
Equipment	• Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • Compliance with those parts of the NORSOK-U100 standard particular to Welding Habitats should be considered
Operational factors	• Maintain bell lock off/on times within guidance limits • Continuous gas sampling and analysis for maintaining contaminates within defined life supporting threshold limits • Maintenance of Habitat life support services • Surface support vessel position keeping • Potential for seabed contaminates and/or suction • Currents
Emergency & contingency	• Maintain life support services for occupants in a safe haven if isolated from surface support vessel – 24 hours minimum • Potential for loss of pressure • Potential for fire

Appendix 3 Inshore/inland diving

Title	Inshore/Inland Diving
Definition	Inside territorial waters (normally within 12 miles or 19.25 kilometres from shore), including docks, harbours, canals, culverts, rivers, estuaries, lakes, reservoirs, dams, flooded tunnels and tanks.
Scope	The preferred method of diving on Inshore/Inland Diving Operations is using Surface Supplied Air or NITROX The diving technique to be used should be defined through risk assessment
Minimum team size and competence	• Minimum of 5 (Diving Supervisor, working diver, stand-by diver, tender for working diver, tender for stand-by diver) • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional support personnel and other management or associated technical support personnel, for example project engineers or maintenance technicians. The Diving Supervisor shall be competent for the task and be in possession of a letter of appointment from the diving contractor
Equipment	• Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency. Equipment should conform to IMCA D018 and the appropriate sections of IMCA DESIGN 023 or IMCA D040. • Proximity to a Recompression Chamber based on Table 1. The Chamber should conform to the standards contained in IMCA DESIGN D023
Operational factors	• Compliance with local port, harbour and other local regulations • Local environmental conditions *eg* current, tides, restricted surface visibility, surface conditions, sun, temperature (hot & cold), wind-chill • SIMOPS *eg* surface craft movements, managing general public, neighbouring operations • Diving at altitudes requires compliance with special diving tables • Diver Safe Access and Egress • Maximum Bottom times based on Table 2
Emergency & contingency	• Remoteness of worksite and access to emergency services may require a higher degree of medical competence and equipment to be immediately available at site • Recovering an injured/unconscious diver from working depth to safe place for treatment, and consequential treatment, including possible recompression requires a detailed site specific plan

Table 1 – Proximity to a Recompression Chamber

The diving contractor has responsibility to ensure the provision of facilities so that a diver can be recompressed in an emergency, should this be necessary. Treatment of a DCI in a compression chamber should commence as soon as possible and the safest option is to have a Recompression Chamber located as near as practicable to the diving site.

Decompression penalties	Depth		Chamber requirement	Travelling distance from the dive site
	Feet	Metres		
No planned in-water decompression	0 – 33	0 – 10	Diving contractor should identify the nearest suitable operational two-person, two-compartment chamber. Under no circumstances, should this be more than –	2hrs
All diving	33 – 165	10 – 50	A suitable, operational, two-person, two-compartment chamber should be provided for immediate use at the site of the diving project. Additional DDC/s maybe required where treating a DCI incident may stop diving operations if only one DDC is available	Immediately available on site

Appendix 4 Live boating

Title	Live-boating
Definition	Term applied to supporting diving operations from a non-DP 2 or 3 class vessel while the vessel is underway. However this also includes diving from a DP vessel on auto track
Scope	There are unlikely to be any circumstances where an ROV could not be deployed, a 4-point vessel moored, or a DP 2 or 3 class vessel used. **Live-boating is considered an unsafe working practice and not recommended within the scope of this RP**
Minimum team size and competence	N/A
Equipment	N/A
Operational factors	• High dependency on communication between dive team and Master to maintain vessel in a safe position relative to the diver at all times • Normal practice is for divers to access water by jumping, and egress through ascent of a diving ladder • Potential for divers umbilical to become fouled in propellers or intakes • No subsea refuge immediately available for diver *eg* basket or stage • Deployment of stand-by diver delayed until propellers stop turning • Recovery of an injured/unconscious diver to surface delayed, and the subsequent treatment • Environmental forces changing • Restricted to daylight hours and good surface visibility
Emergency & contingency	N/A

Appendix 5 Mobile/portable surface supplied systems or SCUBA replacement

Title	Mobile/portable surface supplied systems or SCUBA replacement
Definition	Mobile or portable surface supplied diving system which aims to provide the flexibility of SCUBA without the safety limitations. The system may be moved to different locations on an installation or mounted on a small boat operating from a support vessel.
Scope	Used for shallow water air or NITROX diving at depths less than 30msw (100fsw). It could be used up to a maximum of 50msw (165fsw), but only in exceptional circumstances and after careful risk assessment.
Minimum team size and competence	• Minimum of 5 (Diving Supervisor, working diver, stand-by diver, tender for working diver, tender for stand-by diver) • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians
Equipment	• Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • Sufficient POB/living requirements when using a Mother vessel • Suitable deployment crane(s) and adequate deck space required when using a Mother vessel • Two suitable surface craft (daughter craft) • Decompression chamber(s) • Audit to IMCA DESIGN D040 – Mobile/Portable Surface Supplied Systems
Operational factors	• Size of mother vessel with POB/living requirements and deck space • Safe launch and recovery limitations of daughter crafts • Man-riding cranes and crane drivers maybe required • Travel time between mother and daughter craft to be less than <15 mins • Working depth limited • No decompression diving • Restricted to daylight hours and good visibility only unless suitable power provided (see IMCA D015) • Propeller or grill guards to prevent divers umbilical becoming fouled in machinery • Exposure to environmental forces and elements • Potential for overhead working and dropped objects • Mooring arrangement
Emergency & contingency	• Need to consider and risk assess time constraints for recovering an injured diver from working depth, onto daughter craft, and transportation to mother vessel, into chamber and re-pressurisation to depth

Appendix 6 Observation diving

Title	Observation diving
Definition	Using a submersible decompression chamber (SDC) as an observation chamber when the internal pressure is at atmospheric pressure and external pressure ambient
Scope	Perform subsea inspections without need for decompression after dive
Minimum team size and competence	Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians
Equipment	• Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • IMCA D024 – Diving Equipment Systems Inspection Guidance Note for Saturation Diving Systems (Bell) – relevant sections
Operational factors	• Chamber and ports certified for external working pressure at depth • Very limited viewing, mobility and agility at depth if using a diving bell • Possible requirement to cross-haul bell using certified man-riding system
Emergency & contingency	• Secondary method of recovery to surface and deck, and exercised • Need to consider and plan for locating and recovering to surface, the observation chamber within the period of itís on-board independent emergency life support systems

Appendix 7 ROVs

Title	Remotely Operated Vehicles – ROVs
Definition	Unmanned vehicles covering a wide range of equipment, with no one vehicle being described as typical.
Scope	Working depths and radius vary, ROV classification are: **Class I** – Observation ROV – used for diver observation and inspection tasks, fitted with camera/lights and sonar. **Class II** – Observation ROV with Payload Option ***Class III*** – Workclass ROV **Class IV** – Towed and Bottom Crawling Vehicles **Class V** – Prototype or Development Vehicles
Minimum team size and competence	• Subject to Class of vehicle, and 12 or 24 hr operation • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians • IMCA Competence Assessment Process
Equipment	• IMCA R006 – Standard ROV Audit Document needs modifying to suit Class and model of ROV • Tether management systems
Operational factors	• Need to integrate with Dive Control and Bridge for SIMOPS • Small vehicles = limited power weight ratio, affected by environmental forces • Large vehicles may require own power generation units to guarantee supply and prevent 'spikes' from use of onboard supplies • Potential to become fouled in vessel thrusters – recommend use of tether management systems • Moon-pool deployment/recovery preferred. Overside subject to environmental conditions
Emergency & contingency	• Procedure for dead vehicle or vessel

Appendix 8 Saturation diving

Title	Saturation Diving – Sat Diving
Definition	The practice where divers reach a full saturation state for the pressure and breathing mixture being used. When this state has been reached the time required for decompression is the same no matter how long they remain saturated. A closed diving bell is used to transfer divers under pressure to and from the worksite. Breathing medium is generally HELIOX, although shallow air saturation dives are carried out occasionally.
Scope	HELIOX saturation starts <>20msw and can be used to >600msw depending on diving contractorís procedures and medically approved tables
Minimum team size and competence	• Absolute minimum team size is nine: two Diving Supervisors, one Life Support Supervisor, 1 Life Support Technician, two divers, two stand-by divers on the surface that are saturation qualified, and a dive technician • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians • Specialist divers *eg* welder divers, inspector divers *etc*
Equipment	• The diving system and the HRS must be under Class and free of all outstanding notations • Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • The diving system is to be audited against IMCA DESIGN D024 – Saturation Diving Systems • Power for launching systems used for hyperbaric evacuation must be independent of ship's supply and must be either gravity or stored mechanical energy • Towing/reception vessel to support hyperbaric evacuation • Life support package for hyperbaric rescue system • Reception location to complete decompression and surface interval • Medical equipment held on site which includes that of a minimum specification that is capable of measuring: blood pressure, temperature, heart rhythm, and SPO_2, and able to transmit this information from the inside of the chamber to a doctor remote from the worksite, such that the information can be viewed in real time. • Any SDC to contain equipment that can measure hydrocarbon contamination of an equivalent or greater Specification to the Analox Hypergas 2. This equipment to be capable of alarming and notifying both the Surface Diving Supervisor and the SDC inhabitants of contamination of the breathing atmosphere.
Operational factors	• Suitable vessel for the workscope • Suitable saturation diving system for the workscope • Remoteness of worksite and access to suitable emergency rescue support • Minimum HeO_2 & O_2 gas storage levels below which diving stops – IMCA/AODC 14 • IMCA D014 ICOP
Emergency & contingency	• Depending on remoteness of worksite and availability of suitable emergency rescue support, consider option of on-board ROV intervention • Hyperbaric evacuation of all chamber occupants to a safe refuge and decompression to surface within defined life supporting threshold limits

Appendix 9 Self-contained underwater breathing apparatus – SCUBA

Title	**Self-contained Underwater Breathing Apparatus – SCUBA**
Definition	Diving equipment where the supply of breathing air is carried by the diver, making him independent of any other source. There are unlikely to be any circumstances where surface supplied equipment cannot be used **SCUBA diving is considered an unsafe working practice and outside its use in Scientific and Archaeological Diving (appendix 14); not recommended within the scope of this RP**
Scope	Refer to IMCA Guidance D033 – Limitations in the Use of SCUBA
Depth limitation	N/A
Minimum team size and competence	N/A
Equipment	N/A
Operational factors	• No communications unless fitted with full face mask, hard wire or through water communications units • Without communications unable to: – Request assistance – Direct crane operations – Activate/de-activate underwater tools – Perform real-time video/verbal inspections • Cylinder sizes and working pressure vary • Limited volume of available breathing air • Potential to hold-breath to conserve air • Limited depth/bottom time • Reliance upon diver monitoring own depth and time to working out own decompression schedule • Requires diver to hold a regulator between teeth (normally) • Requires diver to use of half-mask (normally) • Higher risks if used at night, limited to daylight hours • Poor underwater visibility and currents lead to potential disorientation • Need to have a tended lifeline
Emergency & contingency	N/A

Appendix 10 Surface supplied offshore diving – air/NITROX

Title	Surface Supplied Air or NITROX Diving
Definition	Surface supplied diving not using a closed bell. Carried out outside the territorial waters of most countries (normally 12 miles or 19.25 kilometres from shore) or inside territorial waters where offshore diving, normally in support of the oil and gas industry, is being carried out. Specifically excluded are diving operations being conducted in support of civil, inland, inshore or harbour works or in any case where operations are not conducted from an offshore structure, vessel or barge normally associated with offshore oil and gas industry activities. (See Appendix 3)
Scope	Maximum depth 50msw
Minimum team size and competence	• Minimum team of 5 (Diving Supervisor, working diver, stand-by diver, tender for working diver, tender for stand-by diver) • One tender for each diver tended from the surface. For umbilicals tended from a basket or wet-bell, one tender for every two divers in the water • One stand-by diver for every two divers in the water • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians. • Diving Supervisors and Divers may need additional training before using mixes other than air • The controls of a decompression chamber should only be operated by persons competent to do so. The degree of supervision provided should reflect the experience of the operator
Equipment	• The diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • The diving system is to be audited against IMCA DESIGN D023 – Surface Orientated Diving Systems • Decompression chambers offshore – one as a minimum. Additional DDC/s maybe required where treating a DCI incident may stop diving operations if only one DDC is available • Sufficient quantities of air/NITROX must be available for two emergency dives to full intended diving depth as a reserve • Sufficient quantities of air must be available to pressurise both of the deck decompression chamber to the maximum possible treatment depth plus sufficient air for three complete surface decompression cycles • Ninety 90m^3 (3200 ft^3) of breathing quality oxygen must be available for emergency treatment procedures • Launch and recovery of Diver and Stand-by Diver must be risk assessed: – Ladders should not be the primary means of exit from the water if the deck is more than 2 metres above the water surface – When used, ladders should extend at least 2 metres below the water and have sufficient hand holds above water to allow the diver to step easily onto the deck – Diving baskets are recommended for all diving and must be equipped to IMCA standards – Lifting plant and equipment must be certified man-riding
Operational factors	• Limited to 50msw • Maintain PPO_2 below 1.5 bar when using NITROX • Divers not jumping into the water • Umbilical management to restrict divers accessing identified hazards • Maximum bottom time limitations (refer to Table 2) • Decompression method (in-water vs surface) selected with due regard to operational environment • IMCA D014 ICOP
Emergency & contingency	• Recovery of an injured/unconscious diver from working depth to a safe place for treatment, and the consequential treatment • Secondary recovery of diver deployment and recovery system • Emergency evacuation to a safe refuge from DDC in a vessel/worksite abandonment scenario • HeO_2 therapeutic breathing mixtures maybe required to treat some DCI incidents • Remoteness of worksite may, through risk assessment: – Identify the need for additional qualified Diver Medical Technicians within the dive team – Increased level of medical equipment to be held at the worksite

Table 2 – Maximum bottom times

Maximum bottom time limitations for surface decompression (SD), in-water decompression and transfer under pressure (TUP) decompression diving

Depth		Bottom Times† Limits (minutes)	
Metres	**Feet**	**TUP**	**SD and in water**
0-12	0-40	240	240
15	50	240	180
18	60	180	120
21	70	180	90
24	80	180	70
27	90	130	60
30	100	110	50
33	110	95	40
36	120	85	35
39	130	75	30
42	140	65	30
45	150	60	25
48	160	55	25
51	170	50	20

† Bottom time is the total elapsed time from when the diver is first exposed to a pressure greater than atmospheric, *ie* (a) when leaving the surface with an open device; (b) on the start if pressurisation when a closed device is employed in the observation mode, to the time (next whole minute) that the diver begins decompression (measured in minutes).

Appendix 11 Surface supplied mixed gas diving – HELIOX

Title	Surface supplied mixed gas diving – HELIOX
Definition	Surface supplied diving using a properly equipped Wet Bell
Scope	Maximum depth 75msw and maximum bottom time 30mins
Minimum team size and competence	• Minimum team of 7 (Diving Supervisor, working diver, stand-by diver, tender for working diver, tender for stand-by diver, short notice surface standby and tender) • One tender for each diver tended from the surface. • One stand-by diver for every two divers in the water. Standby Diver to be located in wet bell • Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate all the diving plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example winch operator, project engineers or vessel maintenance technicians. Diving supervisor and divers may need additional training before using mixes other than air
Equipment	• Diving contractor must be satisfied that sufficient plant, suitable for the use to which it will be put, is provided for the diving project and that sufficient plant is available, whenever needed, which is suitable to carry out safely any action which may need to be taken in a reasonably foreseeable emergency • The diving system is to be audited against IMCA DESIGN D037 – Surface Supplied Mixed-Gas Diving Systems • Properly equipped Wet Bell • Decompression chamber: one as a minimum. Additional DDC/s maybe required where treating a DCI incident may stop diving operations if only one DDC is available • Through risk assessment, suitable and sufficient quantities of breathable oxygen and HELIOX mixes must be available for two emergency dives to full intended diving depth, and to pressurise deck decompression chamber(s) to the maximum possible treatment depth, plus sufficient for three complete surface decompression cycles • Bail out cylinder(s) must have sufficient endurance to allow the diver to return to a place of safety. This will normally mean that a calculation should be available showing that the capacity of the cylinder(s) at the depth of diving will allow breathing of a suitable gas for 1 minute at a rate of 45 litres for every 10 metres horizontal excursion in order to return to the wet bell
Operational factors	• Limited to 75msw and 30mins bottom time • Divers not accessing the water by jumping • Umbilical management to restrict divers accessing identified hazards • Diver's bail out must have an oxygen partial pressure of a minimum of 180mbar at surface ambient and a maximum 1500mbar at the maximum depth of the dive • IMCA D014 ICOP
Emergency & contingency	• Recovery of an injured/unconscious diver from working depth to chamber • Secondary recovery of dive deployment and recovery system • Emergency evacuation to a safe refuge from DDC in a vessel/worksite abandonment scenario

Appendix 12 Surface swimmer

Title	Surface swimmer
Definition	A person who enters the water, or other liquid, to perform work and who will be subjected to a pressure less than 100 millibars above atmospheric pressure
Scope	Able to perform general surface work tasks on: • Beach and surf zone • Piles, legs, walls • Floating bundles, risers and booms • SBMs and buoys
Minimum team size and competence	Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate any plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians
Equipment	Personnel equipment to be defined by formal risk assessment, *eg* • Fins, boots or other foot protection • Protective suit or coveralls dependent on location • Appropriate gloves for task • Head protection to be considered • Harness with leg straps and recovery D rings • Tended lifeline • Buoyancy compensator • Weight belt • Knife • Light • Mask and snorkel • Tools with straps • Personnel locator beacon • Surface support craft and competent crew • Engine(s) fitted with guards • Sufficient fuel of correct mix • Fenders • First aid kit • Radios and spares • Lights, flares • Protection from environment • Water and food • Radar reflector
Operational factors	• Generally a daylight operation only – unless subjected to robust risk assessment and rigorous risk reducing measures applied • Limited by environmental forces, visibility and weather • Look-out on mother vessel or beach • Regular radio checks
Emergency & contingency	• Recovery and transfer of injured personnel from worksite to medical treatment room and consequent treatment • Failure of primary engine on surface support craft • Standby rescue swimmer with equipment for recovery in immediate readiness • Mother craft kept within defined travel time

Appendix 13 Bounce or TUP diving

Title	Bounce or Transfer Under Pressure (TUP) diving
Definition	The transfer of divers in a closed bell from their working depth to a surface decompression chamber whilst maintaining bottom pressure, and their subsequent decompression to surface ambient
Scope	Removing in-water stops/decompression, surface intervals and re-compression makes the principle of TUP diving safer than surface supplied air/NITROX diving techniques. However, there are many risks that an OGP member should assess before accepting TUP diving techniques
Minimum team size and competence	• Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate any plant and to provide support functions to the dive team. This may require additional deck support personnel and other management or associated technical support personnel, for example project engineers or vessel maintenance technicians • Divers must be qualified for diving from closed bells • Supervisor must be suitably qualified for this technique including gas mixes used
Equipment	• Equipment should comply with the relevant sections of IMCA D024
Operational factors	• IMCA D014 International Code of Practice Diving should be adhered to
Emergency & contingency	• Treatment of decompression illness, or omitted decompression, for a particular breathing medium being used • Hyperbaric evacuation for all persons under pressure

Appendix 14 Scientific & archeological diving

Title	Scientific and archaeological diving
Definition	Scientific diving projects include all diving projects undertaken in support of scientific research or educational instruction. Archaeological diving projects include activities carried out in support of the investigation of sites of historic interest, the analysis of physical remains, the recovery from such sites of articles for preservation and further analysis and educational instruction. This appendix contains the requirements necessary where SCUBA is required to be used to undertake this activity. Where SCUBA is not required by operational necessity the Inshore Appendix should be used (Appendix 3)
Scope	Applies only to divers engaged in scientific and archaeological diving projects.
Depth limitation	30 metres
Minimum team size and competence	• Team size subject to formal risk assessment. There must be sufficient number of competent and, where appropriate, qualified personnel to operate any plant and to provide support functions to the dive team. • The minimum team size is 4: 2 divers (attached by buddy line), 1 standby diver at the surface and a diving supervisor. • Divers should be qualified in the technique they are using and experienced at the depth of diving. One should be trained in first aid including oxygen administration. • All divers must be certified fit by a suitable medical advisor
Equipment	• Equipment should comply with the relevant sections of IMCA D023 and IMCA D018 • 2 way means of communication between supervisor and the divers should be provided. • Each diver including the standby must wear an emergency breathing supply. This must be totally independent of the main supply, including the cylinder and 1st & 2nd stage Regulator • Proximity to a recompression chamber based on Table 1 (Appendix 3). The chamber should conform to the standards contained in IMCA DESIGN D023
Operational factors	• All activities covered by a risk assessment • Generally a daylight operation only unless subjected to robust risk assessment and rigorous risk reducing measures applied • Compliance with local port, harbour and other local regulations • Local environmental conditions *eg* current, tides, restricted surface visibility, surface conditions, sun, temperature (hot & cold), wind-chill • SIMOPS *eg* surface craft movements, managing general public, neighbouring operations • Diver safe access and egress including surface deployment craft provision • Divers travelling by air after diving should comply with DMAC 07 • Bottom times should not exceed the maximum contained in Table 2 (Appendix 10)
Emergency & contingency	• Recovering an injured/unconscious diver from working depth to safe place for treatment, and consequential treatment, including possible recompression requires a detailed site specific plan • Appropriate first aid kit including emergency oxygen administration set available at dive site • When diving in polluted waters suitable decontamination/disinfection procedures should be in place before and after diving project

Abbrevations and definitions

Acronym	Definition
AODC	Association of Offshore Diving Contractors (predecessor to IMCA)
ADS	Atmospheric Diving Suit
Bounce Diving	A form of bell diving where the diver is exposed to pressure for an insufficient time for the dissolved gas in body tissues to reach saturation
DCI	Decompression Illness
DDC	Deck Decompression Chamber
Dives	A person 'dives' if they enter either (1) water or any other liquid, or (2) a chamber in which they are subject to a pressure greater than 100 millibars above atmospheric pressure; and in order to survive in such an environment they breathe air or other gas at a pressure greater than atmospheric pressure
Diving Operation	Can be a single dive or a number of dives. A diving operation is a portion of a diving project that can be safely supervised by one person *eg* a 28-day saturation diving project may be made up of 40 diving operations
Diving Project	Term used to describe the overall diving job, whether it lasts two hours or two months. Applies to either a continuous period of elevated pressure, as in saturation diving, or to a number of diving operations taking place over several days where the divers are not under continual elevated pressure. A diving project ends when all divers have returned to atmospheric pressure and remained in close proximity to a recompression chamber for a specified time in case there is a need for treatment of decompression symptoms
DMAC	Diving Medical Advisory Committee
DP	Dynamic positioning
DSV	Dive Support Vessel
E&P Industry	Exploration and Production Industry including oil, gas, energy and construction activities
FMECA	Failure Modes Effects Criticality Analysis
FMEA	Failure Mode Effect Analysis
HELIOX	A breathing mixture of helium and oxygen
HRS	Hyperbaric Rescue System
HSE	Health, Safety and Environment
IACS	International Association of Classification Societies
ICOP	International Code of Practice
IMCA	International Marine Contractors Association
IMO	International Maritime Organization

Acronym	Definition
ISM	International Safety Management
JSA	Job Safety Analysis
Live Boating	Diving from a vessel under-way not using Dynamic Positioning (DP). Note: diving from a DP vessel on auto track would also be live-boating
LST	Life Support Technician
MARPOL	International Convention for the Prevention of Pollution from Ships
MOC	Management of Change
NITROX	A breathing mixture of nitrogen and oxygen
Observation Dives	Using a diving bell, or similar, as an observation chamber when the internal pressure is at atmospheric pressure and external pressure ambient
OIM	Offshore Installation Manager
OGP	International Association of Oil & Gas Producers
POB	Personnel on Board
PPE	Personal Protective Equipment
PMS	Planned Maintenance System
ROV	Remotely Operated Vehicle
RP	Recommended Practice
Saturation Diving	The diving technique used during diving operations where the diver has reached the full saturation state for the pressure and breathing mixture used. When this state has been reached the time required for decompression is not further increased in relation to the duration of the dive
SBM	Single Buoy Mooring
SCUBA	Self Contained Underwater Breathing Apparatus
SDC	Submersible Decompression Chamber (Diving Bell) used for transferring divers under pressure to and from the worksite
SMS	Safety Management System
SOLAS	International Convention for the Safety of Life at Sea
STCW	Standards of Training Certification and Watch Keeping for Seafarers
Surface Supplied Diving	Diving operations that do not use a closed bell, regardless of the gas mixture used, *eg* air, NITROX, HELIOX

What is OGP?

The International Association of Oil & Gas Producers encompasses the world's leading private and state-owned oil & gas companies, their national and regional associations, and major upstream contractors and suppliers.

Vision

- To work on behalf of the world's oil and gas producing companies to promote responsible and profitable operations

Mission

- To represent the interests of oil and gas producing companies to international regulators and legislative bodies
- To liaise with other industry associations globally and provide a forum for sharing experiences, debating emerging issues and establishing common ground to promote cooperation, consistency and effectiveness
- To facilitate continuous improvement in HSE, CSR, engineering and operations

Objectives

- To improve understanding of our industry by being visible, accessible and a reliable source of information
- To represent and advocate industry views by developing effective proposals
- To improve the collection, analysis and dissemination of data on HSE performance
- To develop and disseminate best practice in HSE, engineering and operations
- To promote CSR awareness and best practice

International Association of Oil & Gas Producers

209-215 Blackfriars Road
London SE1 8NL
United Kingdom
Telephone: +44 (0)20 7633 0272
Fax: +44 (0)20 7633 2350

165 Bd du Souverain
4th Floor
B-1160 Brussels, Belgium
Telephone: +32 (0)2 566 9150
Fax: +32 (0)2 566 9159

Internet site: www.ogp.org.uk
e-mail: reception@ogp.org.uk