

## Diving Project Plan Content and Level of Detail

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### Core concepts

- Diving safety is regulated under Chapter 4 of the Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009 (the OPGGS(S) Regulations) and equivalent State and Territory legislation where powers have been conferred on NOPSEMA.
- The Diving Project Plan (DPP) is developed by the diving contractor, after consultation with and input from relevant stakeholders, including the workforce and operator.
- The DPP must be approved by the operator of the facility at which the diving project is being conducted before a diving operation can commence.
- Where there is no operator, the DPP must be submitted to and accepted by NOPSEMA before the diving operation can commence. For example, survey on a petroleum title by the title holder.
- The DPP must be kept up to date during the diving project. All changes to the DPP must be approved by the operator or in the case of no operator, NOPSEMA.
- NOPSEMA can request a copy of the approved DPP from the operator at any time.
- NOPSEMA publishes a list of DPPs approved by NOPSEMA on its [website](#).

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## Abbreviations and Acronyms and Definitions

ALARP	As Low as Reasonably Practicable
DSV	Dive Support Vessel
DPP	Diving Project Plan
DSMS	Diving Safety Management System
HIRA	Hazard Identification And Risk Assessment
HRC	Hyperbaric Rescue Chamber
HRF	Hyperbaric Reception Facility
HRV	Hyperbaric Rescue Vessel
IMCA	International Marine Contractors Association
IMO	International Maritime Organisation
JHA	Job Hazard Analysis
MAE	Major Accident Event
NOPSEMA	National Offshore Petroleum Safety and Environmental Management Authority
NORMs	Naturally Occurring Radioactive Materials
OPGGs Act	<i>Offshore Petroleum and Greenhouse Gas Storage Act 2006</i>
Operator	The operator, in relation to a facility or proposed facility, is the person who, under the regulations, is registered by NOPSEMA as the operator of that facility or proposed facility.
OPGGs(S) Regulations	Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009
PTW	Permit to Work
ROV	Remotely Operated Vehicle
SIMOPs	Simultaneous Operations
SMS	Safety Management System
SPHL	Self-propelled Hyperbaric Lifeboat

### 1. Purpose and Scope

The purpose of this guideline is to assist diving contractors in understanding the legal requirements for preparing a DPP for diving projects conducted under NOPSEMA's jurisdiction.

This document is part of a series of documents that provide guidance to assist operators and diving contractors in understanding and complying with the general requirements for diving operations under the Offshore Petroleum and Greenhouse Gas Safety (Storage) Regulations 2009 (OPGGs(S) Regulations) and provides guidance on safe diving operations and the content of related submissions to NOPSEMA.

The guideline reflects NOPSEMA's interpretation of the requirements of the regulations and is not a substitute for legal advice or detailed consideration of the Offshore Petroleum and Greenhouse Gas Storage Act 2006 (OPGGGS Act) and relevant regulations.

This guideline should be read in conjunction with:

- Diving Submission Assessment Policy (N-04500-PL0054)
- Diving – General Guideline (N-04500-GL1222)
- Diving Safety Management Systems Content and Level of Detail Guideline (N-04500-GL1961)

Refer to N-04500-GL1222 "Diving – General" for detailed diving terminology definitions.

The guidance notes are available on the NOPSEMA website, along with guidance on other legislative requirements, such as nomination of operator, safety case content, and notifying and reporting accidents and dangerous occurrences.

Summary tables of the legislative requirements are included as a quick reference throughout this document. **However, the reader is encouraged to work directly from the regulations themselves.** References to regulations in this guideline refer to the OPGGS(S) Regulations unless otherwise specified.

## 2. Background

### 2.1. Definitions

#### Applicable regulations

Regulation 1.5 - Definitions  
Regulation 4.1 - Meaning of diving  
Regulation 4.2 - When a diving operation begins and ends

#### 2.1.1. Diving Project

A "diving project" is the term used for the overall diving regardless of its duration. It means any activity, made up of one or more diving operations, in which at least one person takes part or will take part as a diver.

A diving project can apply to both a continuous period, as in saturation diving operations, or to a series of diving operations, possibly taking place over several weeks, where the divers are not under continuous elevated pressure.

#### **Example - Diving project:**

A diving project may include diving activities related to the tie-in of a new pipeline into an existing pipeline. The project may have multiple operations such as, pigging, spool installation, PLEM and SSIV installation, cathodic protection installation and installation of erosion mats.

### 2.1.2. Diving Operation(s)

A diving operation is the portion of a diving project identified in the diving project plan which can be managed safely by one supervisor.

Diving operations can be either a single dive or a number of dives. It will normally be evident what this portion of work is, but factors such as the intended task, site conditions and/or the diving techniques to be used; all contribute to defining the individual diving operation/s. For example, a 28-day diving project may be made up of 40 individual diving operations.

***Example - Diving project consisting of a number of diving operations:***

A diving project may have multiple operations such as pipeline pigging, spool installation, valve installation, cathodic protection and erosion mat installation.

### 2.1.3. When does a Diving Operation Begin and End

A diving operation begins when the first diver starts to prepare to dive, for example, when divers commence saturation compression or, when no compression is needed, when the first diver, who takes part in the operation starts to prepare to dive, after arriving at the diving location.

The diving operation ends when the last diver leaves the water, chamber or dive environment, and has completed any necessary decompression procedures (including any therapeutic recompression). The diving operation does not necessarily finish once the last diver has returned to atmospheric pressure. The diving operation includes the time required for therapeutic recompression if that is necessary. Good industry practice and decompression procedures require the diver to remain in close vicinity to the recompression chamber for a specified time in case there is a need for treatment of symptoms of decompression illness.

***Example: Start of a diving operation***

- When divers commence saturation compression; or
- When no compression is needed, arriving at the diving location.

***Example: End of a diving operation***

- When the last diver has returned to atmospheric pressure and the period typically known as 'bend watch' has finished; or
- Any therapeutic recompression (if required) is completed.

### 2.1.4. What is a Diving Project Plan?

The DPP is a plan developed to undertake a specific diving project. It provides a link between the operator's safety case, other relevant facility safety cases (e.g. pipeline, construction vessel, production facility) and the diving contractor's Diving Safety Management System (DSMS).

The content requirements of a DPP are detailed in Section **Error! Reference source not found.** below.

## 2.2. DPP Guiding Principles

### Applicable regulations

- Regulation 4.12 - Diving project plan to be approved
- Regulation 4.13 - Diving project plan to NOPSEMA if there is no operator
- Regulation 4.14 - Diving project plan to NOPSEMA if requested
- Regulation 4.15 - Updating diving project plan
- Regulation 4.16 - Contents of diving project plan
- Regulation 4.17 - No diving without approved diving project plan
- Regulation 4.18 - Involvement of divers and members of the workforce in DSMS and diving project plan

A DPP is required for all diving projects.

Diving contractors must consult with divers and other members of the workforce during the development and revision of a DPP. Engagement ensures the workforce are informed and consulted about the risks they may be exposed to during a diving project, the control measures and safety management systems to be applied in the management of those risks.

If the diving project is conducted for an operator, the DPP must be developed in conjunction with that operator and the operator must approve the plan before diving may commence.

If there is no operator the DPP must be submitted to NOPSEMA for assessment. If the DPP meets the requirements of the regulations NOPSEMA will accept the plan. Diving may not commence until the DPP is accepted by NOPSEMA.

If the DPP is to be revised, the operator must approve (or NOPSEMA must accept) any proposed revision of the DPP.

The operator for a diving project must provide a copy of the project plan to NOPSEMA if requested to do so. NOPSEMA will make the request in writing. The DPP can be requested for a number of reasons, but typically this provision is used when NOPSEMA is considering undertaking an inspection of the diving project. NOPSEMA will use the DPP to assist in the planning and the conduct of the risk based inspection.

It is expected that the diving project plan is approved by the operator of the project before the dive start-up notice is submitted to NOPSEMA.



*Further guidance regarding DPP submission and approval is available in the NOPSEMA guideline: N-04500-GL1222 "Diving - General"*

## 3. Content Requirements

### Applicable regulations

- Regulation 4.16 - Contents of a diving project plan

### 3.1. General

NOPSEMA has provided a concordance table on its website as a tool to assist diving contractors and operators of diving projects to ensure they have met the content requirements of the regulations.

Operators and diving contractors are encouraged to utilise the DPP concordance table as part of their DPP development process, to assist the operator (or NOPSEMA, if there is no operator for the diving project) in providing a 'road map' to which section(s) of the DPP address the regulatory requirements.



Further guidance is available in the NOPSEMA form: N-04500-FM1453  
**"DPP Concordance Table"**

The regulatory requirements are described in the subsections below.

### 3.2. Project Scope

#### Applicable regulations

Regulation 4.16(1)(a) - Description of work to be done  
Regulation 4.16(2) - Describe each diving operation

The DPP must describe the work to be done and other related information, for example:

- Location of diving activities;
- Scope of work for each diving operation;
- Diving techniques to be used; and
- Project-specific work methodologies and procedures.

All planned diving operations shall be identified and described in the DPP. The diving operations covered by a DPP must be appropriate for a single plan in terms of location, duration, and the extent to which site and project specific hazards and associated risks can be effectively managed by a single DPP.

For example, a DPP that aims to provide for diving operations that includes different facilities or geographically displaced locations may not be considered appropriate particularly where there are unique hazards to each location or facility. Where such factors apply the operator for the diving project should ensure the proposed work is broken down into appropriately located projects, each requiring a separate DPP.

#### Applicable regulations

Regulation 4.16(3) - Complex diving operations

For each diving project, the diving activities must be included in one or more diving operations. The diving contractor must evaluate how much of the project can be supervised safely by one person and ensure that sufficient supervisors are appointed to cover all concurrent diving operations. For example, if a diving project involves three or more divers in the water at any one time, or divers working at different depths that cannot be safely controlled by one supervisor, such projects should be divided into separate diving operations with additional supervisors being appointed as necessary.

When more than one supervisor is on duty at the same time, the DPP should clearly specify the areas and duration of the project that are controlled by each supervisor. Each supervisor must have immediate overriding control of all safety aspects for the diving operation for which they are appointed.

### 3.3. Legislation, Codes and Standards

#### Applicable regulations

Regulation 4.16(1)(b) - Legislation  
Regulation 4.16(1)(c) - Standards and codes of practice

The DPP must identify the Commonwealth, and State or Territory Acts, Regulations and other legislation that is applicable to the area of operation. As a minimum, this will include the OPGGS Act, the OPGGS(S) Regulations and the state or territory legislation that applies.

The DPP must also list the standards and codes of practice applicable to the diving project. Typically, this would include standards and guidelines identified in the contractor's DSMS and specific guidelines or standards used in the project, for example:

- International Marine Contractors Association (IMCA) IMCA D 014 international code of practice for offshore diving, and other IMCA guidelines applicable to hyperbaric systems and diving activities.
- International Maritime Organisation (IMO) codes for vessels and diving systems and applicable class society certifications.
- Codes and standards applicable to safety-critical equipment.
- Codes and standards applicable to project personnel training and competency.

### 3.4. Hazard Identification and Risk Management

#### Applicable regulations

Regulation 4.16(1)(d) - Hazard identification  
Regulation 4.16(1)(e) - Risk assessment  
Regulation 4.16(1)(g) - Job hazard analysis  
Regulation 4.16(1)(j) - Consultation with divers and other members of the workforce

#### 3.4.1. Hazard Identification

The DPP must identify all hazards that have been identified in relation to the diving project. This may include, for example, a hazard register containing the site-specific hazards, such as:

- Diving hazards identified in the DSMS applicable to the project;
- Diving related major accident events (MAEs) identified in the host facility safety case;
- Diving related MAEs identified in the dive support vessel (DSV) safety case (if applicable); and
- Project-specific hazards.

The following are examples of the types of hazards that should be considered. This is not a complete list of all hazards that should be considered but provides some guidance on NOPSEMA's expectation.

#### *Physiological Effects*

- Effects of nitrogen narcosis from the deeper ranges of air diving.



- Details of any possible substance likely to be encountered by the dive team that would be a hazard to their health, for example:
  - contaminated seabed
  - exposure to naturally occurring radioactive materials (NORMs)

#### ***Physical Environment***

- Diving in the vicinity of water-flow, intakes and discharges
- Stored Energy
- Underwater currents
- Remotely Operated Vehicle (ROV)
- Simultaneous Operations (SIMOPs)

#### ***Procedural***

- Lack of familiarisation with project, procedures, equipment and hardware

#### ***Power Tools***

- Specialist subsea tooling
- High-pressure water jetting
- Abrasive cutting discs

#### ***Lifting Operations***

- The use of lift bags
- Subsea crane operations
- Debris recovery

#### ***Breathing Gases***

- Quality of gases
- Contents of gas mixes

#### ***Saturation Diving***

- Hazards related to hyperbaric evacuation
- Length of the diver's umbilical
- Diver transfer under pressure
- Duration of saturation exposure
- Deep diving (over 180 MSW)

### **Medical and Physiological Considerations**

- Noise exposure from subsea tooling
- Exposure to adjacent activities, such as seismic operations and sonar transmissions
- Decompression and compression illness and complications



*Further guidance is available in the NOPSEMA guideline: N-09000-GN1744  
"Qualifications of medical personnel on offshore petroleum facilities"*

#### **3.4.2. Risk Assessment**

Based on the hazard identification, the DPP must assess the consequences and likelihood of the hazard and describe how the hazards and the associated risks will be managed. The DPP may include the diving contractor's standard operating rules, including generic risk assessments, but also must ensure that the actual risks arising from the particular project are assessed and managed to level that is as low as is reasonably practicable (ALARP) in order to protect the health and safety of all those taking part in the diving project.

As a matter of safe working practice, the project risk assessment should be reviewed at regular intervals to ensure that the risk assessment is still adequate for the diving project. The DPP should therefore include a reference to procedures for conducting regular reviews of the site and updating the specific risk assessments as necessary. For example, the DPP should include:

- A documented assessment of the project-specific hazards and implemented control measures;
- Risks associated with emergency response and hyperbaric evacuation systems; and
- Procedures for conducting onsite reviews and updating the risk assessments.

Divers and other members of the workforce that will be involved in the diving operation should participate in the risk assessment. It is understood and accepted that the diving workforce is often transient in nature and therefore offshore diving contractors often employ part-time diving personnel, making it a challenge to involve all members of the workforce in the consultation process. However, as a minimum requirement there should be consultation with, and participation of, the diving supervisor(s) and ideally the divers who will, or may be involved in, the diving project or familiar with the diving operations.

#### **3.4.3. Job Hazard Analysis**

The DPP should describe how the project will provide for job hazard analyses (JHA) for the diving operations.

The JHAs must involve members of the workforce and encompass the activities associated with each operation. All personnel involved in an activity should understand the JHA findings and controls, before undertaking the task.

### **3.5. Safety Management Plan**

#### **Applicable regulations**

Regulation 4.16(1)(f) - Safety Management Plan  
Regulation 4.16(1)(i) – Simultaneous operations

The DPP must set out the safety management plan, which includes the project specific permit to work system(s) and SIMOPs systems and the associated procedures that are in operation. Where the processes require training related to any third-party systems, this should also be detailed in the DPP.

The DPP must consider the specific requirements of the particular diving operation, the dive site and, where relevant, must form a link between the various safety management systems that may be involved in a single project. For example, where diving is occurring on a pipeline that is connected to a platform facility this would require the DPP to consider the safety cases for the diving vessel, the pipeline and the platform.

The DPP must set out the provisions in the DSMS and safety cases that are relevant to the diving project. It is possible that some of the provisions will be common to more than one document, in which case there is potential for differences. Where the various safety management system (SMS) processes are in potential conflict, in particular those relating to simultaneous operations, permit to work (PTW) and emergency response, they must be discussed between the relevant parties and agreement reached on the processes to be applied. The resulting agreed processes to be used for the diving project must be made clear in the DPP.

### 3.6. Emergency Response

#### Applicable regulations

Regulation 4.16(1)(h) - Emergency response plan  
Regulation 4.16(1)(i) - Emergency response

#### 3.6.1. General

The emergency response plan should be specific to the project and its location and reflect the diving contractor, operator and diving vessel procedures. If there are differences in the provisions for emergency response between the operator's safety case, diving vessel SMS and the DSMS, the arrangements to be followed must be agreed and the outcomes made clear in the DPP.

The emergency response plan must:

- Contain up to date names and contact numbers for key positions (personnel) and organisations;
- Clearly show the chain of command and lines of communication to be implemented during an emergency;
- Define the responsibilities of essential personnel and outline the basic procedures for responding to emergencies;
- Ensure all relevant personnel and organisations are kept informed of the plan and any updates;
- Demonstrate that all potential emergencies are identified, and that procedures exist for mitigating their effects. The demonstration should include, for example:
  - the offshore command structure to manage the emergency response on the diving project;
  - the onshore command structure to co-ordinate and support the emergency response on the diving project;
  - the roles and responsibilities of all key employees associated with the execution of the emergency response plan;

- how all parties, including external agencies, are consulted regarding the execution of emergency response actions. For example onshore office, police, maritime agencies and other emergency services;
- how conflicting demands are managed where services, equipment and hardware of one contractor are shared by a number of diving contractors;
- the procedures that are in place for search, rescue and recovery operations;
- the availability at all times of sufficient numbers of competent emergency trained response team personnel;
- the procedures for accounting for all personnel on board in an emergency; and
- a schedule of emergency drills and exercises to be regular conducted for each emergency scenario.

### 3.6.2. Hyperbaric Evacuation

In an emergency, divers in saturation cannot be evacuated by the same methods as other crew members. Special arrangements and procedures should be available to evacuate them safely while keeping them under pressure. Means should enable them to be removed from the worksite to a safe location while maintaining life support and for the length of time determined in the project risk assessment.

The type of equipment and hardware used, how that equipment and hardware is trailed or tested, and its method of deployment will depend on a number of factors including the facilities available, the number of divers to be evacuated and the location of the worksite relevant to other support facilities.

## 3.7. Communication and Consultation

### Applicable regulations

Regulation 4.16(4) - Adequate communications

Regulation 4.16(1)(j) - Consultation with divers and other members of the workforce

Regulation 4.12(4) - Diving project plan to be approved

### 3.7.1. Workforce Consultation

The regulations are based on a fundamental principle that the workforce must be involved in the process of identifying the risks to which they are subjected and consulted in the development of the controls to manage the risks. The regulations specifically require the involvement of divers and other members of the workforce in the development and revision of the DPP.

The DPP must provide details of the consultation that has taken place with divers and other members of the workforce involved in the diving project. Examples of effective consultation might include details of the persons involved, including their roles and responsibilities, together with any outcomes arising from their involvement. This process should typically include some of the diving contractor's more regular supervisory and diving personnel, who would provide input, review and/or provide feedback on the DPP as necessary.

With respect to workforce involvement, it is understood and accepted that the diving workforce is often transient in nature and therefore offshore diving contractors often employ part-time diving personnel, making it a challenge to involve all members of the workforce in the consultation process. However, as a

minimum requirement there should be consultation with, and participation of, the diving supervisor(s) and ideally the divers who will, or may be involved in, the diving project.

The degree of employee involvement, however, should be commensurate with the project duration and complexity. The larger and/or more complicated the project, the greater the range of operational personnel that should be involved.

It is good practice to include members of the workforce in the project hazard identification and risk assessment (HIRA) process. Typically, the HIRA attendance sheet is included in the DPP to demonstrate workforce consultation.

### **3.7.2. Communication**

The DPP must provide descriptions of the arrangements (policies, procedures, etc.) for communications. The content and level of detail needs to be adequate to gain an appreciation of the communication processes. Established communication links between contractors, project sites, facilities, vessels or aircraft and on-shore installations must be demonstrated.

There must also be arrangements for alternative communication links for use during emergencies. Links to shore must be provided for emergency response coordination.

### **3.7.3. Consultation with Operation of Diving Project**

Regulation 4.12(4) requires that the operator of the facility, on which the diving work is being conducted, to approve the DPP only when the operator is satisfied that there was effective consultation and that the plan complies with the required contents of the DPP.

## **4. Related Documents**

### **4.1. Legislation**

*Offshore Petroleum and Greenhouse Gas Storage Act 2006*

*Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009*

Note: All regulatory references contained within this Guidance Note are from the Commonwealth Offshore Petroleum and Greenhouse Gas Storage Act 2006 and the associated Commonwealth Offshore Petroleum and Greenhouse Gas Storage (Safety) Regulations 2009. <https://www.legislation.gov.au/>

### **4.2. Codes and Standards**

IMCA D 014 - International Code of Practice for Offshore Diving

IMCA D 052 - Guidance on hyperbaric evacuation systems

### **4.3. NOPSEMA Documents**

N-04000-GL0225 - Making Submissions to NOPSEMA

N-04300-GN0107 - Hazard identification guidance note

N-04300-GN1054 - Involving the workforce guidance note

N-04300-GN1053 - Emergency planning guidance note

N-04300-GN0165 - Risk assessment guidance note

N-04300-GN0166 - ALARP guidance note

N-04500-GL1222 - Diving - General guideline

N-04500-GL1961 - Diving Safety Management System Content and Level of Detail guideline

N-04500-PL0054 - Diving Submission Assessment policy

N-04500-FM1453 - Diving project plan concordance table

N-09000-GN1744 - Qualifications of medical personnel on offshore petroleum facilities

[Register](#) of DSMSs and DPPs

Documents published by NOPSEMA that are relevant to diving operations are available on NOPSEMA's website at <https://www.nopsema.gov.au/offshore-industry/safety/diving-operations/>

Other documents published by NOPSEMA that diving contractors and operators should consider when preparing and implementing a DSMS and/or DPP are available on NOPSEMA's website at <https://www.nopsema.gov.au/document-hub>