



Bridging Document for Downstream Diving Activities

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This Bridging Document will be subject to annual review

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Named "Dive Contractor" which is party to this Bridging Document	<i>Dive contractor name full style</i>
Title of the named Dive Contractor's Safety Management System to which this Bridging Document is interfaced	<i>Title of dive contractors SMS</i>



Table of Contents

1	Introduction	3
2	Scope	3
3	Diving Activities Plan.....	4
4	Downstream Diving Activities Baseline Criteria	6
5	Diving Activities Checklists	8
6	Client Authorised Representative	8
7	References	10
8	Authorisation signature	10

List of Tables

Table 1 - Decompression Chamber Requirements.....	8
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1 Introduction

All Downstream diving operations involve a unique combination of occupational health and safety issues performed in an unforgiving environment where errors may have serious consequences.

This document outlines BP's Guidance document for diving operations at all BP Downstream's managed and operated worksites and is intended to identify best practices for evaluation and suitability of a contracted diving support service, performed or supervised by "the Dive Contractor". This includes the provision of personnel, equipment and support vessels to ensure that Diving Activities at the Downstream Entity are performed in accordance with industry best practices and the requirements of the BP Operating Management System within Downstream. to ensure the safest possible outcome.

This 'Bridging Document' provides the interface between the Downstream Entity LOMS and the safety management system of the Dive Contractor entitled **Title of the Dive Contractor's safety management system**.

Nothing in this Bridging Document is intended to affect or diminish the Dive Contractor's responsibilities or liabilities under contract and /or at law for or in connection with divers employed or engaged by them, nor is it intended to impose on the Downstream Entity any responsibilities or liabilities in connection with such divers in addition to those imposed (if any) by contract and/or at law.

In the event that the Dive Contractor is unable to answer any of the questions in this Bridging Document, an on-site Risk Assessment is to be conducted to identify appropriate barrier controls and mitigation measures to complete the activities with no harm to people, environment and property. Following its completion, the Risk Assessment needs to be forwarded to the Entities Diving Activity Project Manager and the Segment Marine Authority for review.

2 Scope

This Bridging Document defines the BP Downstream minimum criteria for Diving Activities to support and maintain safe operations.

The Downstream diving activities can include (but not be limited to) the following:

- Underwater inspection and survey of ship/shore interface structures and underwater pipelines;
- Repairs of ship/shore interface structures including fendering and underwater pipelines;
- Construction/modification of ship/shore interface structures, fendering, underwater pipelines and dolphins
- Removing fouling from facility water inlets/outlets and fire pump systems
- Visual inspection of: the ship/shore interface structure, underwater pipelines and equipment (e.g. jetty structures, fendering, fire and cooling water in/outlets) when possibility of damage is suspected.



This document also describes the roles and responsibilities placed upon the diving contractor and BP personnel for diving operations carried out directly for BP.

This document is relevant and applicable to the following methods and locations of diving operations:

- Inland/Inshore diving operations.
- Mobile/portable (may include Rigid Inflatable Boats) surface supplied diving systems using compressed air as the breathing medium.

For Diving Activities performed by the Dive Contractor, compliance with all requirements included in this Bridging Document is mandatory.

3 Diving Activities Plan

Prior to arrival at the dive location the Diving Activities Contractor completes the following:

1. A Diving Activities Plan which includes an operation specific emergency response procedure; and
2. A Diving Activity Questionnaire (as shown below)

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Diving Activity Questionnaire	
1.	Entity/Location
2.	Date and time diving activities were commenced
3.	Date and time diving activities were completed
4.	Location where diving activities took place (e.g. Port, Terminal and Berth)
5.	Reason for diving activities (for example, Survey, repairs, construction, remove fouling.)
6.	Name of Dive Contractor providing dive services
7.	Name of Contractor providing Client Authorised Representative support (if applicable)
8.	Maximum operating depth for diving activities
9.	Depth of Seabed at Dive Site
10.	Primary means of supplying breathing gas to divers (for example, HP or LP surface air supply)
11.	Secondary means of supplying breathing gas to divers (for example, diver carried emergency gas supply)
12.	Number of Persons in Diving Team (including Diving Supervisor, Dive Tenders and standby/rescue divers)
13.	Maximum number of divers in the water at any time
14.	Details regarding dive mask used (for example, full face mask fitted with integral breathing gas supply mouthpiece or otherwise)
15.	Details regarding how communications were maintained between divers in the water and the surface team
16.	Details regarding means of head protection worn by divers when in the water (if any)
17.	Details regarding diving activity support craft
18.	Whether diving activity support craft were propelled by water jets or fitted with propeller guards.
19.	Location of nearest available Diver Decompression Chamber (DDC).
20.	Travel time to nearest DDC and means of travel.
21.	Any other pertinent information regarding diving activities.

In order to complete the Plan, the Diving Activities Contractor shall liaise with the Diving Activity Project Manager directly to verify exact dive location and related details.

When completed a copy of the diving plan and Diving Activity Questionnaire shall be sent to the Downstream Segment Marine Authority



4 Downstream Diving Activities Baseline Criteria

The following requirements shall be complied with by the dive contractor for any Diving Activity arranged for the support of a Downstream Entity:

- All members of the diving contractor's team shall be fully qualified and in possession of current and valid certification to perform their assigned role in compliance with applicable national legislation.
- A diving plan shall be prepared by the nominated dive contractor and provided to the Entity Person Responsible for the Diving Activity, Project Manager, Operations Manager, Marine Advisor (if the diving activity impacts on the ship/shore interface) and the Segment Marine Authority for review. The diving plan shall include an operation-specific emergency response procedure. The emergency response procedure shall contain all relevant emergency procedures and contact details appropriate for the specific operation and location.
- A Risk Assessment shall be conducted by the Dive Contractor to identify hazards relating to the planned diving activities which is specific to the conditions affecting the location at the time it is planned to commence such activities.

Prior to commencement of Diving Activities, the Dive Supervisor shall attend a Pre-Dive Risk Assessment and Dive Plan Conference chaired by the Entity Operations Manager or his/her delegate. During this meeting, the following objectives shall be completed:

- Review of the Dive Contractor's Dive Plan inclusive of the operation-specific emergency response procedure;
- Verification that the control and mitigation measures that were identified by the Dive Contractor's Risk Assessment will be implemented and consideration of any further hazards appropriate to the prevailing circumstances and conditions at the dive location; and completion of all Pre-Diving Activity Checklists.

The minimum team size shall be five and it shall comprise the following

- Supervisor;
 - 1 Working Diver;
 - 1 Standby Diver;
 - 1 Working Diver Tender; and
 - 1 Standby Diver Tender.
- The Diving Supervisor shall not dive.
 - The Standby Diver shall not have any residual decompression penalty from previous dives. Surface-supplied diving from either a static location or mobile/portable system shall be used.

The use of SCUBA equipment for diving activity shall not be permitted at any Downstream facility – exceptions apply under special circumstances only.

- The working diver shall wear a rigid type helmet.
- The standby diver shall either wear a band-mask or a rigid type helmet but shall be in immediate readiness to enter the water and render assistance.
- Voice communications between divers and surface shall be provided.



- Where diving operations require more working divers, then the team structure shall be increased in accordance with the following:
- During surface-supplied diving, there shall be a nominated standby diver at immediate readiness to assist the working divers;
- There shall be at least one standby diver for every two divers in the water. The standby diver shall have a dedicated tender.

It is not acceptable for either the standby diver or his tender to undertake any additional duties.

- As a minimum, the dive team shall include one diver medic, who shall not dive and all divers shall have training in first aid, CPR and oxygen administration. Ideally, the dive team should include two diver medic technicians, one of which should be the Diving Supervisor.
- Regardless of whether there are one or two working divers, the panel air supplies shall all be arranged to allow independent supplies to the working and standby divers.
- Dive support craft should be fitted with a jet drive system or their propellers shall be guarded.
- All power and air services for divers and sub-sea equipment shall be provided by the contractor and not by the Entity.

The diving contractor has responsibility to ensure the provision of facilities so that a diver can be recompressed in an emergency. Downstream recommends a Diver De-compression Chamber to be available at the dive location. However if this can't be achieved, the Diver De-compression Chamber shall be located as near as practicable to the diving site in compliance with the minimum requirements shown in Table 1 below.



Table 1 - Decompression Chamber Requirements

Decompression Penalties	Maximum Diving Activity Depth		Diver Decompression Chamber (DDC) Requirement
	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 two hours' travelling distance from the dive site.
All diving activities	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 DDCs may be required where treating a decompression injury (dci) incident would stop diving operations if only one DDC is available.
For diving activities at any depth where: 1) The depth of the seabed at the dive site is 100 fsw /30 msw or more; or 2) surface sea &/or swell conditions are such that it may adversely affect a diver maintaining a constant working depth at the dive site.			

It is recognised that on occasions, some of the requirements included in the Diving Activities Baseline Criteria requires modification to address identified risks associated with the specific Diving Activity work-scope. In such circumstances such modifications shall be supported as an outcome of a documented Risk Assessment and/or appropriate equipment certification.

At locations where more rigorous requirements than those referred to above are applicable to comply with legislative requirements or to satisfy Diving Contractor’s own requirements the more rigorous requirements shall be implemented and followed.

5 Diving Activities Checklists

The [Pre-Diving Activity Checklists](#) shall be completed before the commencement of any Diving Activities at an owned/operated BP Downstream facility.

All sections of the [Pre-Diving Activity Checklists](#) shall be completed at the Pre-Dive Risk Assessment and Dive Plan Conference.

For the purpose of the Risk Assessment the dive contractor’s own risk assessment forms should be used to supplement and guide the Downstream Entity Risk Assessment as these will have references to the contractor’s equipment and terminology.

Divers shall NOT be permitted to enter the water until all sections of the Checklists have been completed and signed.

6 Client Authorised Representative

The “Client Authorised Representative” (CAR) provides advice and support to the Dive Project Manager (DPM) of the Downstream facility in the event that Diving Activities are required at locations where the services of a Downstream-approved Diving Activity Contractor would not be available.



Under such circumstances a BP-Approved Diving Contractor should be contacted as soon as possible to fulfil the role of Client Authorised Representative. The primary objective of the CAR is to provide the DPM with expert advice to ensure that such diving activities are performed safely including such circumstances where the dive contractor would be unable to comply with the BP Downstream Diving Baseline Criteria.

The scope of the CAR's role includes all or some of the following:

- Assisting the Downstream Entity with selecting the most appropriate (basis HSSE remit) Dive Contractor at a specified location;
- Liaising with the Dive Contractor to identify and agree upon an appropriate and achievable Diving Standard** for the pending Diving Activities;
- Where required to provide support and assistance to the DPM to risk assess and prepare a dive Plan for the pending Diving Activities; and
- Providing support to the DPM to manage the Diving Activities when they are taking place.

Under some circumstances it may warrant the on-site attendance of the CAR, under other circumstances, this may not be achievable so would involve telephone, e-mail and or telephone-conferencing providing support and advice to the entity Dive Project Manager/Entity Operations Manager

In the event that the CAR has any health, safety, environmental or security concerns which may affect the scheduled diving activities, then he or she shall suspend commencement of the diving activities and inform the entity Dive Project Manager/Entity Operations Manager.

**** Ideally this Standard should be in compliance with the "Downstream Diving Activity Baseline Criteria" defined in Section 4 but under exceptional circumstances it shall be in compliance with the "Minimum Criteria for Diving Activities performed under Exceptional Circumstances" defined in Section 5.3.**

In the event that the CAR has provided support by his/her attendance on site; following completion of the diving activities a full report is to be sent to the following BP group e-mail address by the entity Dive Project Manager: Gdownstreamdiving@bp.com

As a minimum, the report should include the following details:

- Executive Summary
- Details regarding current dive qualifications of all dive team members.
- Details regarding diving equipment support craft utilised in support of the diving activities.
- Record of events.
- Copies of all Checklists, Risk Assessments and planning documents pertinent to the diving activities.
- A gap analysis between the diving standards utilised on site and the BP Diving Activity Baseline Criteria.



7 References

Number	Reference Title	Issuing Organisation
ACOP L104	Diving at Work Regulations 1997 Approved Code of Practice (ACOP) L104. HSE Commercial Diving Projects Inland/Inshore	HSE
OGP DRP 411	OGP Diving Recommended Practice Report 411 (June 2008)	Oil and Gas Producers
6th Edition 2010	ADCI Consensus Standards for Commercial Diving and Underwater Operations	ADCI
ADC-GP-001 (Aug09)	Diving From, On or In Close Proximity to Merchant Vessels. Protocol for Isolating Machinery Systems.	ADC-UK

8 Authorisation signature

On behalf of: **the Dive Contractor**

Date	Name	Title	Signature