Procedure for:
Diving & Subsea Operations

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1 Introduction

The purpose of this document is to define the Azerbaijan Business Unit standards and expectations regarding diving and subsea operations within the AzBU. This document specifies the minimum mandatory BP and/or contractor safety management system requirements for diving and subsea operations. Compliance with this Safe System of Work (SSoW) will ensure that the standards of safety on diving and subsea projects are in accordance with BP *getting HSE right* and the AzBU safety management processes.

Safety Goals

The goal of this SSoW is to achieve no accidents, no harm to people and no damage to the environment. To achieve this goal the SSoW complies with the following:

- Internationally accepted good engineering practice, as required by the operating Production Sharing Agreement (PSA) across the Business Unit
- Diving and subsea industry standards and guidance
- BP policies and expectations – What We Stand For
- BP HSE management system – *getting HSE right*
- Azerbaijan Business Unit Safe Systems of Work

Expectations

The expectations of the SSoW are to:

- Comply fully with all legal requirements.
- Provide a secure and safe working environment.
- Ensure that all employees, contractors and others are well informed, well trained, engaged in and committed to the HSE improvement process.
- Provide assurance that the safety processes in place are working effectively.
- Maintain confidence in the integrity of BP operations.
- Confirm that the management systems of contractors fully support BP's commitment to HSE performance.

Scope

This SSoW applies to all inshore or offshore diving and subsea operations that take place on behalf of the BP AzBU. All contractors directly contracted by any AzBU Project or Operations Performance Unit, and those directly contracted by UTG Subsea Team working in the Business Unit must comply with this Safe System of Work. Whereas the boundary of BP control and accountability is defined by work that takes place on behalf of BP, it is the intent that through BP influence that all diving and subsea contractors operating within the Caspian and Black Sea regions shall likewise comply with these expectations.

References

The reference documents with which compliance is the minimum standard in conjunction with this SSoW are:

- International Marine Contractors Association (IMCA) International Code of Practice for Offshore Diving

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- United Kingdom Offshore Operators Association (UKOOA) Diving Guidance
- Diving Medical Advisory Committee (DMAC) Guidance and Best Industry Practice

2 Roles and Responsibilities

Operations and Project Groups operating within the AzBU are responsible for the safe management of diving and subsea projects. They control the diving or subsea requirement, the worksite and the management control systems. These responsibilities are met through full compliance with this document and those referenced. Those responsible for diving in the AzBU must verify that third parties operating within BP's sphere of influence accord with the safety management system requirements. Any deviations from this SSoW or the Dive Safety Management System must be justified through a risk management process.

Diving Technical Authorities

Within the AzBU, two diving technical authorities are recognized – one for the Operations Performance Unit, and another for Azeri Projects Performance Unit. Prior to commencement of any new diving operation the respective technical authority must be consulted.

In addition, the AzBU seeks further advice and guidance from recognized technical authorities within the Upstream Technology Group (UTG Dyce, Aberdeen). Besides technical competence on subsea operations, UTG also provide independent audit of compliance with the Diving and Subsea Operations Practice. If required, UTG will provide preparation, planning and support for diving and subsea emergency response and investigation of diving related accidents.

Dive Contractors

Dive contractors are responsible to fully understand and comply with the requirements for development of the safety management system. Other third parties not directly contracted by the AzBU but working within the BP sphere of influence must also comply with the SMS requirements.

Management of the Diving and Subsea Operations SsoW

This custodian for this Safe System of Work is the Business Unit central HSE Department. Regular review, maintenance and management of document changes are the responsibility of HSE through reliance on technical input from the technical authorities.

Dive Responsible Personnel and Company Authorized Representatives

Responsibilities for these individuals shall be thoroughly defined in the work scope specific Dive Safety Management System. A BP authorized representative shall be on board all dive support vessels. The Diving Representative is accountable to ensure

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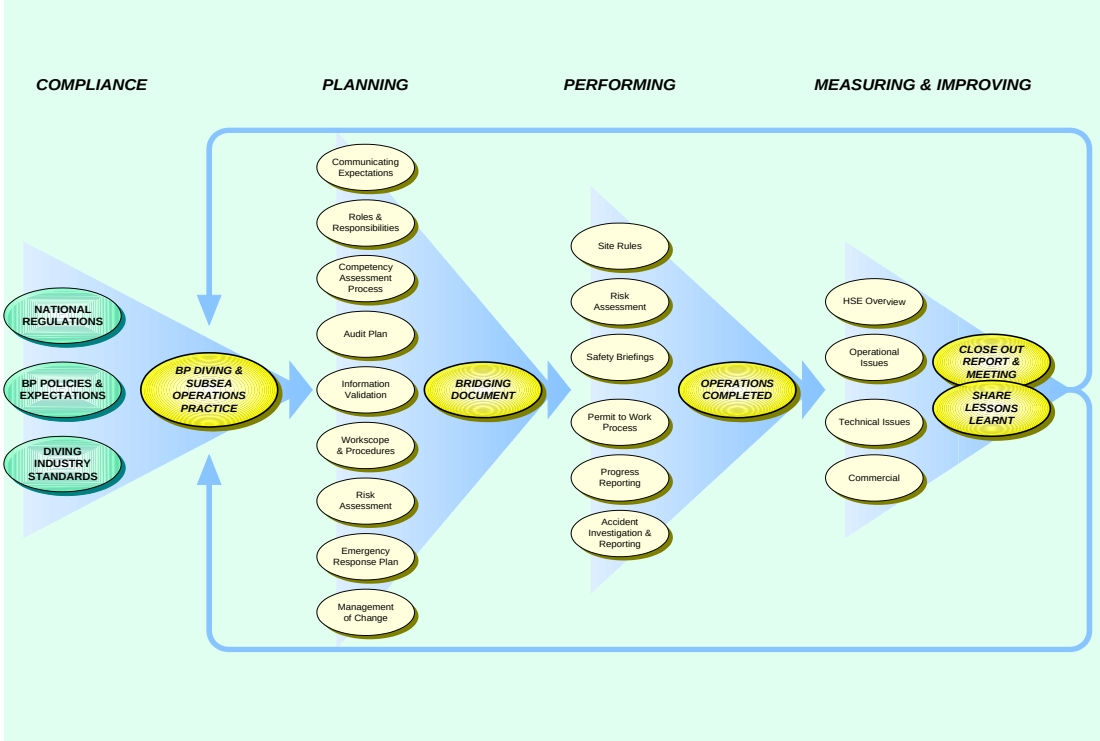
that all diving operations comply with the safety management system. In addition, they must be competent in their ability to provide overall HSE assurance in accordance with other AzBU standards.

3 Safety Management Process

The intent of this SSoW is to describe the applicable processes for the management of diving and subsea operations within the AzBU. Prior to the commencement of any dive operation the BP Technical Authority shall develop, or shall ensure that the dive contractor develops a Dive and Subsea Operations Safety Management System (SMS). The components of the SMS are depicted in the following figure, and shall include as a minimum the various elements described in this section.



3.1 Compliance and Standards

To assure AzBU and project groups that any work undertaken by a contractor supplying diving or subsea services, direct or through third parties meets BP expectations, the diving standards must be stated. The minimum compliance standards are of International Marine Contractors Association (IMCA) and the rules of the International Code of Practice for Offshore Diving Operations, D014.

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The diving and subsea contractor must maintain a full membership of IMCA. IMCA codes of practices shall be applied including Former Dynamic Positioning Vessel Operators Association, Association of Offshore Diving Contractors, and Diving Medical Advisory Committee Guidance Notes.

3.2 Planning

3.2.1 Communicating Expectations

At the start of and throughout a diving or subsea project, it is essential that BP expectations on policies, practices and procedures be communicated to all key personnel. The Dive SMS must describe how this will be accomplished.

3.2.2 Roles and Responsibilities

The roles and responsibilities of all organizations and key personnel involved in the emergency response, management and control of a diving or subsea project must be clearly defined.

3.2.3 Competency Assessment Process

A process for ensuring the competence of onshore and offshore personnel shall be adopted and applied to key personnel involved in the emergency response, management and control of a diving or subsea project.

3.2.4Audit Plan

An audit plan for the diving or subsea operation shall be developed. As a minimum the contractors' management systems, vessels, plant and equipment shall be audited to BP and IMCA International standards prior to work commencing. The audit plan should discuss how ongoing assurance would be maintained throughout the scope of operations.

3.2.5 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. Though non-mandatory, an Asset Information Dossier can be useful in providing relevant information for the site including the following topics:

- Field description
- Work control systems
- Communications
- Simultaneous operations
- Hazid
- Generic risk assessment
- Documentation references

3.2.6 Work Scopes and Procedures

Work scopes and procedures must be clearly defined and reviewed by the BP technical authority before work can commence. They shall be written with due regard to BP expectations, policies and practices.

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3.2.7 Emergency Response Plan
Response systems and callout procedures must be in place for BP, the diving and subsea contractor, other offshore operators and other key parties.

3.2.8 Risk Assessment
All activities including work scopes, generic and specific procedures must be subject to a formal risk assessment process during the planning phase. The process will identify any requirement to change the work scope and procedures and/or any mitigating measures to be applied. The process should employ the diving or subsea contractor's SMS with 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.

3.2.9 Management of Change
The diving and Subsea contractor must have a documented system to manage change. The management of change procedure will define how change is implemented, who is authorized to approve levels of change and how any appropriate risk-reducing measures are applied.

3.2.10 Bridging Document
No diving or subsea operation can commence until an authorized bridging document has been issued. The bridging document is the interface between BP and other parties SMS's. It provides scope overview, operational detail for an emergency response and outlines how the SMS requirements have been met. A separate bridging document will be required for each phase of a diving or subsea project or major element of work. Key personnel and the AzBU Crisis Management Department and Incident Management Team must receive controlled copies.

The contents of a bridging document should include but are not limited to:

- Project title and revision status.
- Circulation list and authorisation signatures.
- Project overview including dates and contract arrangements.
- Identification of the relevant work scopes and procedures.
- Identification and allocation of key personnel roles and responsibilities.
- Communication contact numbers for key personnel and worksites.
- Accident and incident reporting mechanisms.
- Management of change process.
- Emergency and contingency procedures including clarification of primacy.
- List of referenced documentation including revision status.
- Work control system.
- Audit status of key items of equipment.

3.3 Performing

3.3.1 Site Rules
Site rules that define the specific arrangements to manage and control diving and Subsea projects safely shall be in place for all sites. These will include HAZID, work control system, simultaneous operations, emergency response, and communications.

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3.3.2 Risk Assessment
Formal onsite risk assessments, the review of generic risk assessments, job safety analysis and personal risk assessments must be conducted for all elements of the project including routine maintenance activities. The process should employ the diving and subsea contractor's SMS with active involvement from all parties whose acts or omissions could adversely affect the project.

3.3.3 Safety Briefings
Briefings on BP 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 that includes 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.

3.3.4 Permit to Work Process
In addition to the diving and subsea contractor or vessel permit to work system, when working inside the sphere of influence of the BP AzBU, the BP Permit to Work (PTW) system is to be employed. A nominated competent person will act as the Performing Authority and will remain onsite throughout operations.

3.3.5 Progress Reporting
A process of regular communications between the key parties shall be in place to report project progress including safety operational and technical issues.

3.3.6 Incident Investigation and Reporting
An agreed system of accident, incident and near miss reporting must be implemented to ensure BP 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. A multi-functional team with independent participation and leadership from BP management will investigate major incidents.

3.3.7 Operations Completed
On completion or suspension of operations the diving and subsea contractor is to inform BP of the status of the project in accordance with the requirements detailed in the relevant contract or third party agreement. Only on the acceptance by BP of the as-builds and close out documentation produced by the diving and subsea contractor can final acceptance of the works be achieved.

3.4 Measuring and Improving

In order to assess the performance of the project or a phase of work it is essential that a measurement and improvement process is in place and the project details are recorded in a closeout report. This will allow lessons learned to be carried forward to other projects or phases of work. The items detailed below should form the structure of the closeout report.

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3.4.1 HSE Overview
HSE data including a summary of accident, incident and near miss reports from the diving and subsea contractors shall be collated. The conduct and culture of contractors and other parties should be reviewed and issues raised in order to improve standards and compliance with requirements. The information gathered from all levels of reporting is to be analysed to identify and monitor trends and develop prevention programmes and actions.

3.4.2 Operational Issues
Information on all activities including, but not limited to, the following list should be reviewed, recommendations raised and actions recorded in order to improve standards and compliance:

- Chronology of the project
- Positive and negative performance of contractors, personnel and plant
- Procedures and work processes
- Logistics and communications
- Project documentation

3.4.3 Technical Issues
As-built and closeout documentation must be used to revise BP documentation. Relevant documentation must be updated immediately if the changes affect diving and subsea safety.

3.4.4 Commercial
An itemized outline breakdown of costs and expenditure should be recorded for reference and audit purposes.

3.4.5 Closeout Reporting and Meeting
The closeout report and meeting are central to the measuring and improving stage. The objectives of the closeout meeting will be to:

- Review the final closeout report and corrective action requirements
- Review the project and its final status
- Highlight any lessons learned

3.4.6 Sharing Lessons Learned
Lessons learned from the project or phase of work must be shared and where appropriate distributed to the wider diving and subsea industry.

3.5 Additional AzBU Safe Systems of Work

In addition to the applicable processes, other AzBU Safe Systems of Work must also be taken into consideration, as well as the Golden Rules of Safety.

The AzBU authorization to dive procedures must also be completed to allow diving and subsea operations to commence.

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TECHNICAL DOCUMENTATION FRONT SHEET

Total pages: 2 including cover

Azerbaijan Business Unit

Standing Instruction

In addendum to Safe System of Work for Diving and Subsea Operations

Approved Helmets

Rev	Date	Reason for Issue	Prepared	Technical Authority	Technical Authority	Checked	Engineering Manager	Director HSE	
1	24 July 03	Equipment approvals	M.Sinquefield	H.Kuhlmann	R.McKay		K.Kennelley	G Campbell	

Document Number: Addendum to UNIF-HSE-PRO-272

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	Document Type		Controlled	Standing Instruction to Technical Authorities			
	System Number			UNIF-HSE-SI-272			
	Life Cycle			As changes are identified			
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1 Introduction

The purpose of this standing instruction is to define the Azerbaijan Business Unit expectations regarding diving helmets within the AzBU.

2 Standing instruction

All diving helmets must be identified in pre dive equipment audits. If Kirby Morgan models S/L 17 A/B or Mark 21 helmets are to be used then the following standing instruction applies.

1. Any S/L 17 models A/B or Mark 21 that are to be used, must comply with all KMB's recommended modifications and safety checks (see attached No.1).

2. Any S/L 17s models A/B or Mark 21s that are to be used, must be installed with Divex recommended modifications, which have been approved and recommended by UTG (see attached No. 2).

3 Responsibilities

All dive programs shall be reviewed and approved by the AzBU Technical Authority for Dive Operations. It is the Dive TA responsibility for ensuring the implementation of this Standing Instruction. Compliance with this standing instruction should be verified during pre-dive audits, and throughout the dive operations.

4 Attachments

Attachment 1. KMB modifications and safety recommendations

SL17 A-B safety notice.htm

Attachment2. Divex modifications/ approved by UTG

S L 17 mod 1.jpg (Compressed)

S L mod 2.jpg (Compressed)

S L mod 3.jpg (Compressed)

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Safety Notice #1 of 1999:
SuperLite 17 A/B & MK 21 Neck Clamp
11 May, 1999

Subject: Weld Strength

Products Affected: SuperLite 17 A/B & MK 21 Neck Clamp Assemblies Manufactured from 10/97 to 12/98

The purpose of this Safety Notice is to alert all end users and owners of Diving Systems International SuperLite 17 & MK 21 helmet neck clamps, DSI Part #505-055, to a potential problem with the welded stud on the neck clamp assembly.

Inspect your neck clamp immediately.
This weld should have 1/8" of material (1/8" fillet weld) all around the stud as shown in figure A. If your clamp has a weld like the one shown in figure B, (no extra material), please return it to your nearest Authorized DSI Dealer immediately for inspection and replacement, if necessary.

NOTE: The potential of possible failure of the weld shown in figure B increases when the user's neck clamp is not properly adjusted.

If you use any neck seal other than the standard DSI neck dams,
YOU MUST RE-ADJUST YOUR NECK CLAMP ASSEMBLY FOR PROPER OPERATION!

Before every dive, your equipment must be completely checked for any damage or wear. Even normal wear and aging will eventually result in the need to replace parts. Any abnormal condition of any component requires the removal and replacement of the component. If any part doesn't look right, don't use it. All metal parts should be inspected for cracks or corrosion and replaced immediately if this type of damage is found. While some surface rust or corrosion is to be expected, severe corrosion can lead to the eventual failure of the part.

Important Caution Note

This reference guide is to eliminate confusion as to which neck clamps qualify for Warranty Replacement. ***Please check that neck clamps fit these specifications before sending them to DSI.*** Any type of marking on the hinge block area does not warrant replacement.

Any type of letter or number	**NO Marking**

Neck Clamp with No gusset - No

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gusset (current product) **Warranty These are at least ten years old**

This is the exact dimension of the stud that will help identify warranty replacement. Anything other than this will not qualify under the safety notice.

Safety Notice #1 of 2000:
SuperLite 17 A/B & MK 21 Neck Clamp
27 January, 2000
This Notice is an addendum to the Safety Notice #1, 11 May 1999

Subject: Weld Strength

Product Affected:\SuperLite 17 A/B & MK 21 Neck Clamp Assemblies

The purpose of this Safety Notice is to alert all end users and owners of Diving Systems International SuperLite 17 A/B & MK 21 helmet neck clamps, DSI part # 505-055 to a potential problem with the welded stud on the neck clamp assembly. The welded stud on some clamps may not have sufficient weld and could pose a Safety Threat.

Prior to April of 1999, the neck clamp assemblies were not marked in any way. These assemblies were manufactured to an engineering drawing calling for a minimum standard of 1/16" inch (.0625) (1.588mm) fillet weld on the stud (fig A below).

Beginning in April of 1999, neck clamp assemblies are manufactured with a date of production and identification number engraved directly onto the part. **Every neck clamp is N.D.T. (nondestructive testing) tested to A.W.S. standard D1.1.** These clamps are welded to a minimum standard of 1/8" inch (.1250) (3.175mm) fillet weld on the stud (fig A below).

All owners and end users of the SuperLite 17 A/B and US Navy MK 21 helmets should inspect the welded stud as follows:

Determine if the clamp has a manufacture date stamp as illustrated.

If it does, you should check to ensure the stud contains a minimum of 1/8" inch (.1250) (3.175mm) fillet weld as shown in illustration A. The weld leg length must be no less than 1/8-inch (.1250) (3.175mm).

If there is no date stamp, you should check to ensure the stud contains a minimum of 1/16" inch (.0625) (1.588mm) fillet weld as shown in illustration A. The weld leg length must be no less than 1/16" inch (.0625) (1.588mm)

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In either case, the clamp must also conform to criteria below.

1. Weld must show no visual signs of cracking.

2. Crater pits are acceptable provided the area contains no cracks and the minimum 1/16" inch (.0625) (1.588mm) weld thickness is met.

3. Porosity. Disregard any pores 1/32" inch (.03125) (.794mm) or less in diameter. Pores the sum of whose diameter exceeds 1/8" inch (.1250) (3.175mm) are unacceptable.

4. Undercut. Maximum depth of undercut of the stud base metal measured from the un-ground adjacent base metal shall not exceed 1/64" inch (.015625) (.397mm).

5. Weld shall be free of linear indications greater than 1/16" inch (.0625) (1.588mm) in length.

6. Non-Linear /round indications less than 1/32" inch (.03125) (.794mm) in diameter shall be disregarded.

Inspect your neck clamp immediately.

A

If your clamp has a date stamp, this weld should have a minimum 1/8" (.1250) (3.175mm) of material (1/8" (.1250) (3.175mm) fillet weld) all around the stud as shown.

If there is no date stamp, this weld should have a minimum 1/16" inch (.0625) (1.588mm) of material 1/16" inch (.0625) (1.588mm) fillet weld) all around the stud as shown

B

If your clamp has a weld like the one shown (no extra material) please return it to your nearest Authorized DSI dealer immediately for inspection and replacement if necessary.

NOTE: The potential of possible failure of the weld shown in figure B increases when the users neck clamp is not properly adjusted. This is especially true with use of any drysuit dams.

If you use any neck seal other than the standard DSI neck dams,
YOU MUST RE-ADJUST YOUR NECK CLAMP ASSEMBLY FOR PROPER OPERATION!

Before every dive, your equipment must be completely checked for any damage or wear. Even normal wear & aging will eventually result in the need to replace parts. Any abnormal condition of any component requires

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the removal and replacement of the component.

If any part doesn't look right, don't use it.

All metal parts should be inspected for cracks or corrosion and replaced immediately if this type of damage is found. While some surface rust or corrosion is to be expected, severe corrosion can lead to the eventual failure of the part.

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<<11 October 2004>>	<< Alan McNulty >>	<< Esmira Akhundova >>	<< Initial Issue>>

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