



**AZERBAIJAN BUSINESS UNIT  
(AzBU)**

**Procedure for:  
Lifting Operations**

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## 1 INTRODUCTION

### 1.1 DOCUMENT PURPOSE

This document is based on the UK *Lifting Operations and Lifting Equipment Regulations 1998* and *SI 1998/2307*. It presents the BP standards applicable to the safe use of lifting equipment in Azerbaijan Business Unit (AzBU as defined in appendix).

U.K. Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) came into force on 5th December 1998. These regulations implement the lifting provisions of the Amending Directive to the Use of Work Equipment Directive (AUWED, 95/63/EC) and build upon the requirements of the Provision and Use of Work Equipment Regulations 1998 (PUWER).

It is important to note that all work equipment, including that deemed to be “lifting” under LOLER, shall require to be maintained “in an efficient state, in effective working order and in good repair”, LOLER Regulation 5.

**This document satisfies the requirements of Lifting Operations in the “BP Golden Rules of Safety.” The BP North Sea Lifting Rules are used as source of reference (See References in App.3).**

### 1.2 DOCUMENT SCOPE

A list of work sites and activities covered by this Safe System of Work is contained in Appendix 10. This Safe System of Work does not apply to lifting equipment and lifting operations carried out on project construction locations, or project-based drilling operations. Once project construction activities cease and facilities and pipelines are handed over to operations, the AzBU Lifting SSOW will apply on BP managed sites.

The contents of this document apply to work carried out by or on behalf of the Azerbaijan Business Unit. The scope of this document incorporates mechanisms to:

- Ensure that all items of work equipment covered by AzBU identified as lifting equipment are operated and maintained in a safe and fit for purpose condition.
- Ensure that lifting operations are carried out in a safe manner.
- Ensure that the risks to plant equipment and personnel involved in lifting operations are identified, appropriately assessed and mitigated to ensure that these are at all times “As Low As Reasonably Practicable”.
- Ensure that equipment, procedures and standards of competency etc. are identified and managed in a safe manner.
- Ensure that roles and responsibilities for all lifting operations and activities are clearly defined.

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### 1.3 DEVIATIONS PROCEDURE

If compliance with any requirement of this Safe System of Work is not possible, the Deviation Procedure (UNIF-HSE-PRO-101) shall be followed.

**NOTE:** Drilling operations utilizing the draw works for movement of equipment in and out of the well bore are excluded from this document (appropriate approved procedures shall be in place)

## 2 LIFTING EQUIPMENT

All lifting equipment shall have a unique identifier and portable lifting equipment/ transit slings shall be color-coded.

Lifting equipment and mechanical handling aids can be divided into five categories, which reflect different purposes, different re-certification methods and different areas of responsibility. These five categories can be summarised as follows:

### 2.1 CATEGORY 1: PORTABLE LIFTING EQUIPMENT

Portable lifting equipment is defined as moveable lifting appliances and accessories for general use on the site. Examples include shackles, slings, come-alongs and pull lifts. This equipment will be stored and issued from a designated storage area. This is generally a cargo container modified for the purpose of storing lifting equipment, generally referred to as "Rigging Loft".

This category of lifting equipment shall be inspected, overhauled and re-certified on 6-monthly intervals.

Portable lifting equipment and accessories will be supplied via the rigging loft and subjected to the relevant Site specific lifting controls.

### 2.2 CATEGORY 2: FIXED LIFTING EQUIPMENT

Fixed lifting equipment are those items of lifting equipment permanently installed at the site such as overhead cranes, hoists trolley beams, pad eyes, davits, man-riding winches, crown block and draw works equipment, casing racking arm, tugger winches etc.

Maintenance schedules and records of inspection and testing shall be maintained through Computerized Maintenance Management System (CMMS) via the Planned Maintenance Routine (PMR) schedules and Written Schemes of Examination (WSE) or appropriate auditable maintenance program.

### 2.3 CATEGORY 3: TRANSIT SLINGS

Lifting equipment accessories under this category are generally referred to as "transit slings", which are slings, shackles etc., used for general cargo handling and transportation duties.

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This category of lifting equipment must only be used for cargo handling / boat transfer and transportation duties only and must not be used on the installation for general lifting operations.

Due to the particular duty and environmental conditions to which this category of equipment is subjected, i.e. shock loading and corrosive atmosphere, IT SHALL BE DESTROYED AND REPLACED FOLLOWING ITS RETURN ONSHORE. Demonstratable management and adherence to the one-time-use policy is to be asset specific.

Transit slings shall only be used for securing loads during delivery of equipment and shall not be used for lifting.

## **2.4 CATEGORY 4: CARGO CARRYING UNITS**

These are defined as portable units for repeated use in the transportation of goods or equivalent, handled in open seas, to and from and between fixed and/or floating installations and ships and onshore facilities.

All CCU's must be regularly inspected, tested and a valid certificate to be in place prior to use. See Section 2.4.

Examples of Cargo Carrying Units (CCUs) are containers and lifting baskets, waste skips, etc.

## **2.5 CATEGORY 5: MOBILE EQUIPMENT**

**Mobile Equipment** is equipment that is on wheels or tracks and is self propelled or specifically designed to be attached to or pulled by a vehicle.

This category of lifting equipment includes but is not limited to:

- **Mobile cranes (see app. 5 for inspection check list, principles extracted from BS 7121)**
- Mobile forklifts
- Mobile working platforms

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### 3 EXAMINATION PHILOSOPHY

Thorough Examinations will be carried out as per specific requirements defined in this section.

All Thorough Examinations (as defined in Appendix 1) of lifting equipment within AzBU shall be performed by an Authorized Lifting Equipment Inspector.

#### 3.1 EXAMINATION OF PORTABLE LIFTING EQUIPMENT

All portable lifting equipment must be thoroughly examined every 6 months. Inspection / testing, maintenance procedures must be approved by Authorized Lifting Equipment Inspector.

All portable lifting equipment must have original certificate (birth certificate). Where the original or an approved copy is not available or out of date, re-certification will be necessary. A competent person must inspect portable lifting equipment prior to issue and use.

It is the responsibility of rigging loft provider to implement 6-monthly thorough examination and color-coding of equipment.

#### 3.2 EXAMINATION OF FIXED LIFTING EQUIPMENT

All fixed lifting equipment (excluding offshore pedestal cranes) is subject to 6-month thorough examination and color-coding performed by authorized lifting equipment inspector.

All fixed lifting equipment must be registered in CMMS (Computerized Maintenance Management System) or equivalent complete with inspection and maintenance intervals (including 6-month thorough examination).

It is responsibility of an Authorized Lifting Equipment Inspector to develop inspection / maintenance / certification program based on regulations, established best practices and history information (excluding offshore pedestal cranes).

A BP approved inspection and maintenance program for offshore pedestal cranes should be developed and performed by company responsible for crane management through CMMS or equivalent.

#### 3.3 EXAMINATION OF TRANSIT SLINGS

All transit slings must be checked and examined prior to use by a competent person.

##### Offshore use

Transit Slings shall not be used offshore for any other purpose than transit.

Due to the particular duty and environmental conditions to which this category of equipment is subjected, i.e. shock loading and corrosive atmosphere, it shall be destroyed immediately following its return onshore.

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### 3.4 EXAMINATION OF CCU'S

All CCU's must be regularly inspected, tested and re-certified as per EN 12079, 1999 standard.

CCU's permanently held on site which are out of certification must be thoroughly examined in accordance with EN 12079. If for some reasons re-certification of CCU's on site is not possible, alternative means of lifting must be used.

It is important to note that the lifting assembly fitted to CCU's are deemed to be accessories for lifting and shall therefore be subjected to a 6 month Thorough Examination.

CCU's permanently held on site which are lifted on a regular basis or otherwise in service, will be subject to a 6 month visual examination on the asset at the time of the fixed lifting equipment inspection.

In the event that a CCU remains on an asset beyond its certification expiration date, the services of an Independent Authority shall be requested to carry out a thorough examination on site for appropriate re-certification.

CCU's permanently held offshore include rigging lofts, paints stores, temporary office units, well services equipment etc.

Units which cannot readily be lifted, i.e. where the sling assembly has been removed and/or the unit welded to the deck do not require to be examined on a periodic basis.

In the event that these units are to be moved, either around or off the asset, the Authorized Lifting Equipment Inspector will carry out a Thorough Examination to ensure the unit is structurally sound.

Records of examinations of these units shall be kept with the Site Lifting Coordinator and a register detailing the location and the next examination due dates maintained.  
All CCU's must be appropriately checked prior to use.

### 3.5 EXAMINATION OF MOBILE LIFTING EQUIPMENT

All Mobile Lifting Equipment must:

- Be supplied, maintained, inspected, certified as per manufacturer recommendations and relevant standards (BS 7121, ASME B30.5 or equivalent, See references in app. 3).
- Be checked prior to use by a competent person.
- Mobile cranes shall be inspected according to the checklist in Appendix 5.

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## 4 REPORTS/ RECORDS

### 4.1 STRATEGY

Each site must have a complete register of all lifting equipment.

Hard copies of all the lifting equipment original certification, thorough examination certificate and numbered examination procedure used shall be kept on site with the Site Lifting Coordinator.

Lifting Equipment Register must provide a description of all lifting equipment on the facility. Each item will be allocated a site identification number. The description will include the following information:

- Location
- Area
- Safe Working Load (SWL)
- Working Load Limit (WLL)
- Test certificate details
- Date of last Thorough Examination
- Examination procedure number
- Date of next Thorough Examination
- Quarantined/ defect report number

Third party contractor's thorough examination reports shall be held on the asset, by the relevant supervisor, until such times as the equipment is returned to the supplier.

The register shall be regularly audited. It shall be the responsibility of the competent person, planning the lifting operation, to check the relevant Lifting Equipment Register to confirm the current status of the equipment prior to use.

### 4.2 STORAGE AND AVAILABILITY OF RECORDS

The Site Manager shall ensure that the records are properly maintained and are in order.

## 5 CONTROL PROCESSES

### 5.1 COLOR CODING

All portable lifting equipment shall be colour coded to give visual indication of its certification status prior to use. Some fixed lifting equipment may be color-coded.

**The colour code system denotes that the equipment has been thoroughly examined in the past six months and a valid examination report exists. It does not however provide a guarantee that the equipment remains serviceable and must therefore be visually examined prior to use.**



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**Under no circumstances shall any portable lifting equipment be used which is incorrectly coloured.**

**The valid color codes shall be visibly evident at all sites.**

Colour coding, listed in section 4.2, is an established industry practice. Any other coding convention must be discontinued.

The AzBU shall adopt a strict colour code system for lifting/rigging equipment.

Each colour code shall run for a period of 6 months beginning on 1<sup>st</sup> April and 1<sup>st</sup> October annually.

## **5.2 CONTROL OF PORTABLE LIFTING EQUIPMENT**

The following colour code cycle will be used on portable lifting equipment of categories 1 and 2 to indicate that they have been examined and fit for use for a six-month period:

<b>Green</b>	(April 2004 to October 2004)
<b>Blue</b>	(October 2004 to April 2005)
<b>Yellow</b>	(April 2005 to October 2005)

Then back to **Green**.

Portable and fixed lifting equipment and accessories that have been rejected on post use examinations must be stored in the quarantined area of the rigging loft and will have their colour coding painted over with **white paint** and tagged "**Do Not Use**" until such time that the item is returned to the supplier for repair or replacement.

Rigging loft concept shall be used for management / control of Portable Lifting Equipment (PLE) appropriate to the work site.

The Rigging Loft will consist of a secure controlled storage area providing the following:

- Storage of new equipment
- Quarantine of defective equipment
- Inspection area/ Document control

**Control of man-made fibre slings should be as follows:**

### **1) Man-made fibre endless round slings and flat webbing slings:**

**Use of this type of equipment will automatically default the category of lifting called "Complicated", unless an approved site specific procedure is in place.**

Site Competent Person shall inspect these categories of slings for damage prior to use. If damage is evident or is suspected, the slings shall be physically removed and destroyed. Certification for this type of sling is valid for 6 month only, after which it must be destroyed.

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### **No re-certification shall take place**

## **5.3 CONTROL OF FIXED LIFTING EQUIPMENT**

All Fixed Lifting Equipment shall have a unique visible identification number or reference number entered into CMMS or equivalent.

All fixed lifting equipment approved for personnel transfer must be properly identified (“**Man-riding**”).

## **5.4 CONTROL OF TRANSIT SLINGS**

All transit slings will be colour coded as shown below. This will ensure that all lifting equipment is easily identified and kept separate from the transit slings. The control and re-certification of unused transit slings shall be the responsibility of the site manager.

**Brown** (April to October)

**Purple** (October to April)

## **5.5 CONTROL OF CARGO CARRYING UNITS (CCU's)**

The Site Manager is accountable for verification that all CCU's sent from the site are in a safe condition and for obtaining of an accurate weight of all CCU's and ensuring that such weights are not above the SWL.

The weight of each CCU shall be recorded on the outbound manifest and a copy made available to receiving asset. All CCU's sent to operated sites should have a minimum of one month certification period remaining.

For all installations and onshore sites there will be no stacking of containers, baskets, tanks and half heights.

For designated installations where this is not practicable, stacking requires prior permission of the relevant BP Business Unit Leader and:

- a) Equipment is specifically designed for that purpose, and clearly marked as suitable for stacking.
- b) Stacking is confined to pre-designated areas.
- c) Risk assessment of stacking operations is performed and shows that the risk involved is less than alternative practicable approaches.
- d) Stacked containers must have an additional pennant so that the crane hook can be attached/detached while the load handler is standing at deck level.
- e) Stacking and de-stacking is controlled by permit.

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## 5.6 CONTROL OF MOBILE LIFTING EQUIPMENT

**No mobile equipment shall be used unless it has valid certification of thorough examination. Reference to chapter 2, section 5.**

## 5.7 CONTROL OF THIRD PARTY CONTRACTOR LIFTING EQUIPMENT

Contractor's lifting equipment includes all items whether rented, or supplied free of charge, as part of the Contractor tools of trade, including container sling assemblies.

Contractor's lifting equipment may arrive on a site by a number of different routes. It is the Site Lifting Coordinator's responsibility to verify that equipment satisfies the requirements of this SSOW.

## 5.8 CONTROL OF UNCERTIFIED STRUCTURAL COMPONENTS

**Use of these components will automatically default the lift category to at least "complicated".**

If a rigging plan utilizes a structural component which has not been certified it is vital that sufficient data is collated regarding the component in question. The assessment may require engineering calculations with regard to stresses and strains that apply to the component in question.

If this is the case as per the lifting plan decision tree the MHC Technical support engineer shall become involved to provide engineering/technical expertise.

# 6 COMPETENCY

## 6.1 COMPETENCIES AND TRAINING OF PERSONNEL

The Site Manager/OIM shall ensure that all persons involved with lifting equipment, its use, operation and its maintenance, have received formal training and experience that provides levels of competency according to their tasks and responsibilities and at least to the level in the following chart.

All personnel involved in mechanical handling and lifting operations on AzBU Installations and Sites, shall be trained to the relevant standard (North Sea or equivalents) and formally assessed as competent in the tasks to be undertaken.

Documentary evidence of training and competence assurance will be required before any person is authorized to perform lifting operations.

The Site Manager / OIM shall ensure a register of competent personnel authorized to undertake lifting operations shall be maintained.

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<b>Description of Role</b>	<b>Category of Lifting Operation</b>	<b>Level of Competency</b>
<b>Banksman</b>	Routine and Simple	Level 1 ECITB /CITB or equivalent
<b>Rigger/Slinger</b>	All categories	Level 2/3 ECITB/CITB or equivalent
<b>Crane driver/operator</b>	All categories	<b>Offshore:</b> Level 3 OPITO or equivalent. <b>Onshore:</b> CITB or equivalent training; heavy goods vehicle drivers license.
<b>Forklift driver</b>	Forklift Operations	RTITB or equivalent
<b>Site “Competent Person”</b>	All categories	Level 3 ECITB/CITB or equivalent
<b>Lifting Inspector</b>	Equipment Inspection	BS EN 45004 and hold current formal qualifications
<b>Site Lifting Coordinator</b>	All categories	Level 3 ECITB/CITB or equivalent
<b>Lifting Technical Authority</b>	Complicated /Complex	Relevant level of engineering and leadership experience as endorsed by Senior Technical Authority

## 6.2 Roles and Responsibilities

Every lifting operation must be:

- Properly planned by a competent person
- Appropriately supervised
- Carried out in a safe manner

Lifting activities usually involve several craft disciplines and authorities.

It is therefore important that any system set up to manage lifting operations safely, must recognize this inherent complexity and must ensure that roles and responsibilities and the competencies for each activity are clearly defined, recognized and that there is a shared view of interfaces and boundaries. This section details the roles and responsibilities of these “stakeholders”.

Given the differences in job titles for similar roles across the operations, contract strategies etc., the roles listed below are generic. However, each site and installation must translate and appoint the responsibility to suit its own organization.

With regard to lifting operations, some roles may be combined, e.g. Deck Foreman and the Lifting Supervisor but it is essential that these roles are clearly stated at each site and understood by all.

The generic “stakeholders” are:

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- Banksman
- Rigger/Slinger
- Crane Operator
- Forklift Driver
- Site Competent Person
- Lifting Inspector
- Site Lifting Coordinator
- Lifting Technical Authority
- Senior Technical Authority

### **Banksman:**

A Banksman is a person who has been properly trained, determined to be competent, and is authorized to perform his duties.

The Banksman's duties are to ensure clear precise commands are given to the crane driver.

Depending on the complexity and importance of the load and lifting operation, the person in-charge will supervise and act as Banksman for all movements and precision positioning lifts.

The Banksman shall at all times accompany and guide the crane assigned to them during all its movements on site.

Lifts are to be carried out only in the Banksman's presence and he/she is the ONLY authorized person to give instructions to the crane driver and the crew during lifting operation.

The Banksman must meet the following requirements:

1. Should never be involved in lifting operation itself.
2. Not touch the load. He/she must stand back from the load being handled in a prominent position where he/she has a good view of the lifting activities.
3. Remain in communication with the rigger/slinger and crane operator at all times.
4. Keep the load handler in sight during the lifting operation.
5. Be capable of understanding slinging/lifting arrangements suitable for the load to be lifted.
6. Understand fully the hand signal codes and be able to give clear and precise signals and/or instructions.
7. Be capable of directing the movements of the crane and load in such a manner as to ensure the safety of personnel and plant equipment.
8. Be known and clearly identifiable to all concerned by wearing high visibility identification.

### **Rigger / Slinger:**

The Rigger/Slinger shall prepare the load for lifting according to the lifting plan and:

- a) Stand clear while a load is lifted clear of the deck and landed, while slack is taken up with or without a load on the hook and must confirm to the banksman that he is clear.
- b) Not touch a load being landed until it is below his/her waist height and never attempt to manually stop a swinging load.
- c) Be easily identifiable, and distinct from the banksman.

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### **Crane Operator:**

A Crane Operator is a person who has been properly trained, authorized, is competent and fully conversant with all aspects of safe crane operation. In particular they must be familiar with the controls and capabilities of the crane that they are to drive and operate.

The Crane Operator is responsible for ensuring that all servicing routines have been carried prior to crane operation to ensure that the crane can function correctly and is available to carry out the necessary lifting operations as required.

Crane operator must read and understand Lifting Plans and confirm crane capability with regard to load and boom angles.

**The ultimate responsibility for loads being lifted or moved by the crane, resides with the Crane Operator who should satisfy themselves that the operation in hand has been risk assessed and included in the toolbox talk and that the appropriate PTW (Permit To Work) and Lifting Plans are in place.**

### **Forklift Driver:**

A Forklift Driver is a person who has been properly trained, is authorized, is competent and fully conversant with all aspects of the machine safe operation.

**No untrained person is allowed to operate a forklift.**

### **Site “Competent Person”:**

This person (e.g. deck foreman, site lifting and rigging supervisor) must have adequate technical and practical knowledge and experience to visually inspect lifting equipment to confirm continued fitness to use, answer queries about the suitability of lifting equipment, to advise, develop and execute lifting plans.

The Site “Competent Person” will:

- Manage and control the rigging and lifting loft inventory
- Maintain the register of generic and specific lifting plans and risk assessments for the Site
- Maintain the register of persons authorized to perform lifting operations.
- Assist the Lifting Coordinator with the development of lifting plans.
- Develop lifting plans and risk assessments for all lifts.
- Continuously review the generic lifting assessments for routine lifts
- Act as the Performing Authority (under PTW if appropriate) for all lifting operations.
- Have the responsibility for all site lifting activities deck and/or boat handling operations.

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### **Lifting Inspector:**

Lifting inspector shall:

- Develop a thorough examination program for fixed lifting equipment (excluding offshore pedestal cranes).
- Carry out a thorough examination of fixed lifting equipment and ad-hoc inspection of any other relevant types of lifting equipment.
- Be responsible for ensuring color-coding and certification of examined equipment.

### **Site Lifting Coordinator:**

#### **Primary role is to provide continuous review of Lifting Practices to ensure compliance with this AzBU SSOW.**

Site Lifting Coordinator has a coordination role, being responsible for ensuring that a regime is established and maintained on the installation/site such that lifting operations are carried out safely. This will require:

- The authorization of all lifting plans and risk assessments for all categories of lifts by the nominated Lifting Coordinator supported by the Lifting Authority and Mechanical Handling Contractor's (MHC) support engineer as appropriate. This includes ensuring that it is clear who is in charge of specific lifting operation.
- Ensuring by documentary evidence that all personnel involved with any lifting operations on the site have been properly trained and assessed as competent to SSOW standards and that a register of such personnel is maintained on the installation/site. This includes resident site personnel and any ad-hoc personnel.

The person must also have an in-depth knowledge of the relevant legislation, regulations, standards, company procedures, health and safety aspects, and industry best practice

### **Mechanical Handling Contractor's (MHC) Technical Support Engineer:**

The MHC Technical Support Engineer is nominated as the person responsible for providing technical expertise in support of complicated lifts (where applicable) and **ALL** complex lifting operations on the installation/site. This includes the endorsement of the scope of method statements, lifting plans and task-based risk assessments, discussion with specialist engineers and contractors. Ensuring all relevant engineering standards are applied during the development phase of the work scope and that the output from the engineering studies/assessments are documented and recorded.

### **Lifting Technical Authority (LTA):**

The Lifting Technical Authority is responsible for providing the technical overview for lifting operations on sites.

He/She is responsible for ensuring complicated lifts (where applicable) and **ALL** complex lifts are engineered to the relevant standards.

LTA is the Technical Authority for this AzBU SSOW.

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### **Senior Technical Authority (STA)**

Has overall technical responsibility for all Lifting and Rigging operations. STA is responsible for nominating and ensuring competency of LTA.

## **6.3 Communications**

A uniform communication system clearly understood by all site personnel taking part in lifting operations and including hand signals and where required radio sets, shall be established and used in the process of all lifting operations.

The Communications that are required for lifting operations shall be specified in the lifting plans.

**Note:** In noisy areas, headsets for radios will be required. If radios are to be used crane operators shall have hands-free sets.

Charts with standard hand signals for controlling lifting operations explaining the system of signals used shall be conspicuously posted in the vicinity of the areas dedicated permanently for lifting operations.

## **7 RISK ASSESSMENT AND PLANNING OF LIFTING OPERATIONS**

### **7.1 Strategy**

#### ***Risk Assessment***

**All lifting operations** must undergo a risk assessment in accordance with Safe Systems of Work procedure.

**Generic lifting operations** shall be reviewed on a regular basis to ensure that the original Risk Assessments remain valid.

For all lifting operations, the degree of risk identified during the Risk Assessment shall determine the level of supervision required for the operation and the required experience of the personnel involved (see 6.3.3). In particular, the Risk Assessment should account for:

- working under suspended loads
- attaching and detaching the load
- overloading
- overturning
- breakdown in communication during lifting (especially blind lifting)
- the environment and location
- proximity hazards
- pre-use checks by the operator
- deterioration in the condition of lifting accessories

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- the experience, competence and training of available personnel.

Risk Assessment shall specifically consider manning requirements for safe conduct of complex and blind lifts to ensure clear communication between all team members participating in the lifting operation.

### ***Planning***

Following a Risk Assessment, and the preparation of a standard instruction or procedure, the person using the equipment can normally plan routine lifts on an individual basis. In any event, the person planning the operation shall have adequate practical and theoretical knowledge and experience of planning lifting operations.

The degree of planning will vary depending upon the:

- type of lifting equipment
- complexity of the lifting operation
- degree of risk involved.

As a minimum, the plan shall address the risks identified and should identify all resources, procedures and responsibilities necessary to ensure a safe operation.

#### ***All lifting operations shall be:***

- a) Properly planned by a competent person*
- b) Appropriately supervised*
- c) Carried out in a safe manner*

In addition to the above requirement, the BU's Safe System of work UNIF- HSE – PRO - 206 Volume 2, imposes a duty to carry out a suitable and sufficient risk assessment to identify the nature and level of hazards associated with work.

#### ***No Lifting & Rigging Operations should be carried out without a lifting plan produced by a competent person and approved by relevant authority.***

To remain cognisant of this SSOW, it is recommended that the asset management compile a series of generic lifting plans to cover routine lifting duties.

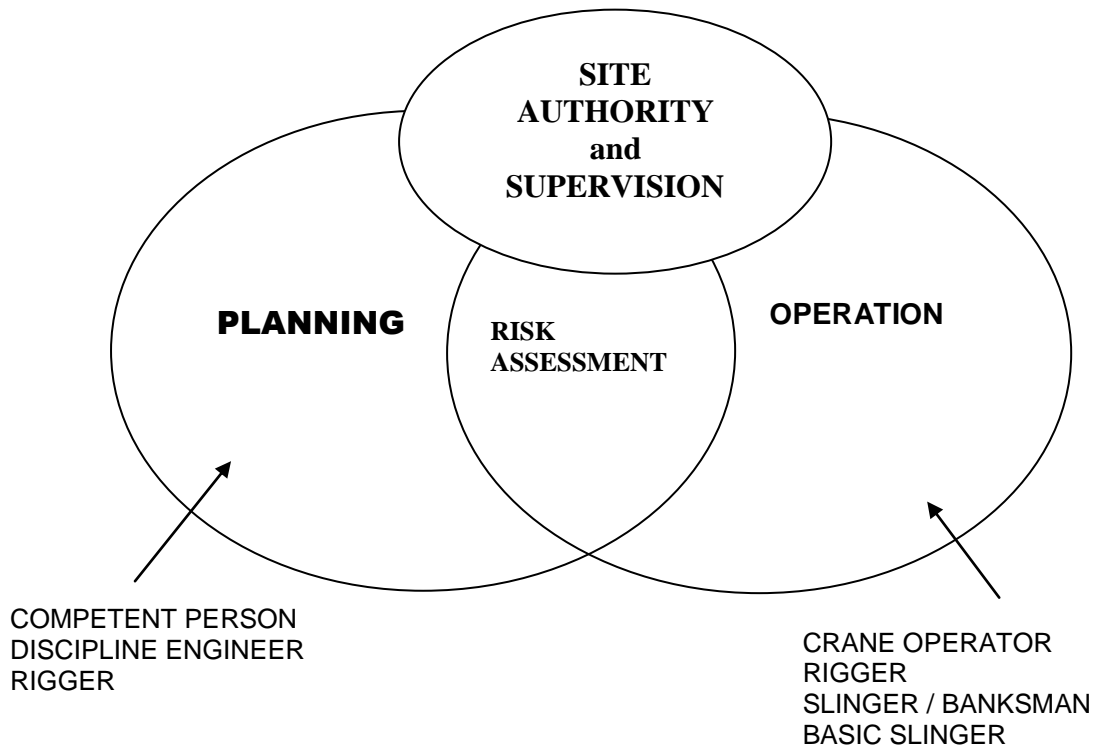
Prior to the commencement of any lifting operation, a pre-job safety meeting shall be carried out in order to assess the suitability of the Lifting Plan and to familiarise personnel involved in the lifting operation with the risk identified. At this time, minor variations may be necessary to take account of current conditions, e.g. wind speeds, wave height, position of people, deck layout etc.

Lifting plans involving cranes and supply boat operations should pay particular attention to environment conditions and the crane manufacturer's operating manual.

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## 7.2 Spheres of Responsibility

The spheres of responsibility and interfaces are as shown below.



## 7.3 Planning Process

### 7.3.1 Lift categories

To assist with the risk assessment process, lifting operations have been divided in four categories, which are:

- Routine
- Simple
- Complicated
- Complex

**Routine and simple lift:**

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This category of lifting operations are usually implemented using generic lifting plans and risk assessments, each with clearly established criteria and limitations. The generic plan is then reviewed at a toolbox talk prior to being implemented by appointed competent personnel.

#### **Complicated lift:**

This category of lifting operations require a written method statement in addition to the lifting plan, risk assessment and the approval of Site Lifting Coordinator and/or Mechanical Handling Contract Technical Support or the Lifting Technical Authority. The specific plan is then reviewed at a toolbox talk prior to being implemented by appointed competent personnel.

#### **Complex lift:**

If a lifting job involves divers or sub-sea work or the plan indicate the selected route for the load to travel is over live plant or a confined space, it will be classed as complex. This category of lifting equipment require a written method statement in addition to the Lifting plan, risk assessment and the approval of Site Lifting Coordinator and/or the Mechanical Handling Contract Technical Support or the Lifting Technical Authority.

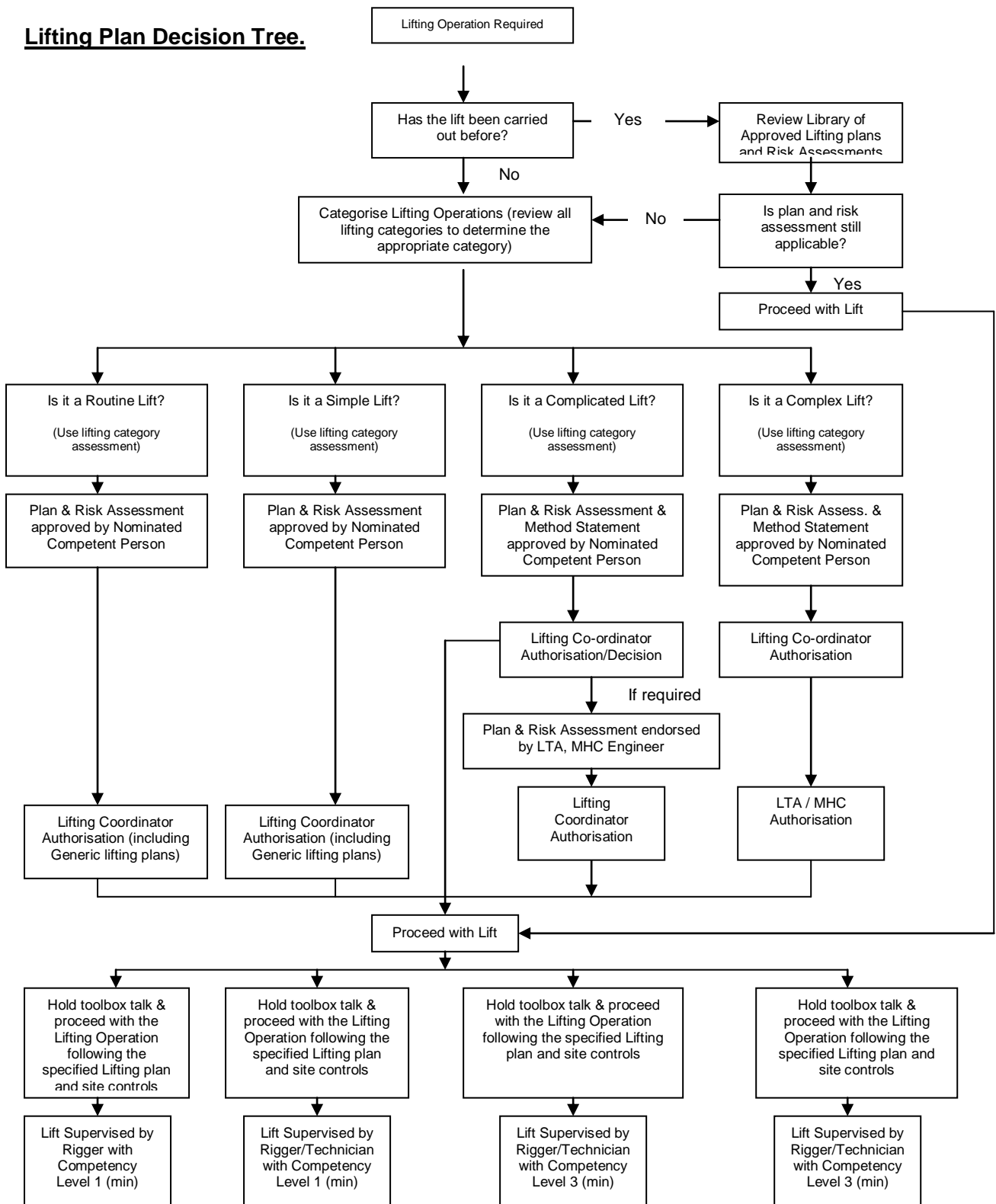
**Minimum number of people required to carry out the complex or complicated lifts safely shall be risk assessed and established prior to start the lifting operation.**

**Note:** Where the lifting activities – routine, simple, complicated or complex – are likely to be repeated, the assessments, lifting plans and method statements should be held on file for subsequent review and re-use.

Routine activities by definition are repetitive and as such, the method statements, risk assessments, plans and any supporting procedures should be held on file.

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### Lifting Plan Decision Tree.



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### 7.3.2 Wind Speed Limitations

#### **No cranes shall be operated out of manufacturers recommendations.**

It is responsibility of the Site Lifting Coordinator to ensure that accurate and realistic wind speed readings using anemometer set in appropriate location are utilized.

Lifting operations shall be suspended when average wind speeds reach:

- Onshore – 25 knots (12.86 m/sec)
- Offshore – 35-40 knots (18 – 20.5 m/sec)

Lifting operations may be allowed to re-commence following:

- A formal task specific risk assessment involving Site Manager, Site Lifting Coordinator and HSE advisor taking into consideration site conditions, industry guidelines, crane manufacturers recommendations, type/weight/shape/ of load being lifted
- An upgrade of the lift to at least “**complicated**”.
- Continuous monitoring of the weather/site conditions including wind gust speeds.

**It is the accountability of the Site Manager to ensure that if lifting operations are re-commenced that the above items shall be considered and the appropriate limits set, understood, recorded and adhered to.**

### 7.3.3 Risk Assessment – guidance notes:

This section is for guidance purposes only. Whilst it tries to incorporate the main hazards associated with lifting operations, these notes are not intended to be exhaustive. Other equally significant hazards may be present.

Where other hazards are identified, these shall be assessed in a similar fashion to those identified on the notes, with due consideration to possible causes, consequences and appropriate solutions.

Planning for the worst-case scenario should ensure that all hazards have been brought to ALARP Level and the necessary mitigation actions are in place.

#### **Important:**

**Lifting more than one dedicated “load” at a single time (“Piggy backing”) is strictly prohibited and should not be carried out under any circumstances.**

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### **RISK ASSESSMENT GUIDANCE NOTES**

#### **1) The load**

<b>HAZARD</b>	<b>POSSIBLE CAUSE</b>	<b>CONSEQUENCE</b>	<b>SOLUTION</b>
Load heavier than expected	Incorrect weight on manifest Weight unknown – incorrect estimate Lifting equipment overloaded	Equipment failure Load falling Equipment instability/ collapse Personal injury	Trial lift Dynamometer Ensure personnel emergency access route
Centre of gravity not as expected	Incorrect information supplied Incorrect slinging Cargo shifting in transit	Load swinging Load striking person Load striking plant Personal injury	Reposition lifting equipment Trial lift Ensure personnel emergency access route Fit tag lines
Physical dimensions	Insufficient head room Nearby plant and machinery	Load striking plant Load handling problems Personnel injury	Consider alternative slinging method. Use specialised lifting equipment e.g. low headroom hoist Use of additional banks man/ radios Fit tag lines
Load damaged	Transit damage. Sharp corners.	Falling objects Load falling. Personnel injury.	Consider alternative slinging method. Pre-lift check Ensure emergency access route. Correct PPE.

#### **2) The environment**

<b>HAZARD</b>	<b>POSSIBLE CAUSE</b>	<b>CONSEQUENCE</b>	<b>SOLUTION</b>
Adverse weather conditions	Excessive wind speeds. Poor visibility – light, mist or fog. High sea states. Rain, sleet or snow showers, Ice on load and deck/ground.	Load swinging. Load striking person Load striking plant. Personnel injury. Snatch load. Crane overload. Slips trips and falls.	Fit tag lines Use of additional banksman/radios. Correct PPE. Do not carry out lift.

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### 3) Controlling the area

HAZARD	POSSIBLE CAUSE	CONSEQUENCE	SOLUTION
Pedestrians	Unaware of lifting operation. Ignore barriers. Unaware of risks	Load striking person. Personnel injury.	Barrier off area. Use of additional Banksman assistance /radios. <b>Keep people away.</b>
10 Other work activities in the vicinity.	Persons involved in lifting operation not aware of other nearby work activities.	Lifting over the heads of persons involved in other work front in the vicinity. Load striking person. Personnel injury.	Consult Permit issuing Authority. Check area prior to operation.
Breakdown in communications.	Untrained personnel. Radio problems. Blind lifts.	Load swinging. Load striking person. Load striking plant. Personnel injury.	Use suitably trained personnel. Use of additional banksman assistance / radios

### 4) The lifting equipment

HAZARD	POSSIBLE CAUSE	CONSEQUENCE	SOLUTION
Incorrect SWL.	Incorrect selection of equipment. Incorrect assessment of weight of load. Incorrect calculations of forces.	Equipment failure. Load falling. Personnel injury.	Double check SWL required prior to lifting. Use dynamometer. <b>Remember to include weight of accessories for lifting.</b>
Lifting accessories not attached correctly.	Incorrect selection of equipment. Human error. Shackles of containers unscrewed in transit. Safety latch of hooks damaged.	Load falling. Personnel injury.	Pre-use check. Ensure tie-rop/safety pin fitted to shackles.
Mechanical damage.	Lack of maintenance. Incorrect use of equipment. Contact with sharp edges. General wear and tear.	Equipment failure Load falling. Personnel injury.	Pre-use check. Review and correct maintenance plan. Review and correct storage method.
Incorrect fleet angle.	Lifting appliance not positioned directly over load.	Load swinging. Load striking person. Load striking plant. Personnel injury.	Re-position lifting appliance prior to operation.
Equipment out of date.	No pre-use check.	Equipment failure. Violation of procedure.	Pre-use check. Correct color code. Check certification.

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## 5) Personnel

HAZARD	POSSIBLE CAUSE	CONSEQUENCE	SOLUTION
Human factors (Knowledge based)	Inadequate training. Lack of competence.	Incorrect choice of equipment. Incorrect attachment of lifting accessories. Incorrect operation of equipment. Load swinging. Load striking person. Load striking plant. Equipment damage. Personnel injury.	Ensure adequate training. Check competency level of personnel involved in lifting operation. Increase supervision.
Human factors (Error based).	Slips. Lapse. Mistakes.	Incorrect choice of equipment. Incorrect attachment of lifting accessories. Incorrect operation of equipment. Load swinging. Load striking person. Load striking plant. Equipment damage. Personnel injury.	Pre-job safety meetings Realistic time frame to perform job. Increase supervision.

## 6) Structural

HAZARD	POSSIBLE CAUSE	CONSEQUENCE	SOLUTION
Structural collapse	Incorrect load applied to structural component.  Lifting equipment not fitted and assembled correctly	Dropped object Load striking person Load striking plant Personnel injury	Engineering calculations Proof load testing Equipment fitted or fitted by trained/competent personnel Thorough examination by competent person prior to use
Deck collapse Ground subsidence	Inadequate surface loading Capacity for weight of load Environmental conditions	Mobile crane instability Deck failure Dropped object Load striking person Load striking plant Personnel injury	Engineering calculations Correct anchorage Spreader plates placed under load or mobile crane outriggers Soil testing

## 7) Principles to a safe lift

### Before the lift.

1. Ensure personnel are competent.
2. Assess the load & identify the risks.
3. Select the correct lifting equipment.
4. Carry out a pre-use check.
5. Ensure lifting equipment is fitted correctly.
6. Identify what could go wrong – take appropriate precautions.
7. Control the danger zone during lifting operation.
8. Prevent the load from swinging.

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9. Avoid trapping hazards & lifting over personnel.
10. Ensure there is adequate space to land the load.

#### **After Lift.**

Check equipment after use.  
Store in correct conditions.

**All Lifting Operations must have appropriate Lifting Plan in place.**

**Important: If you find a problem stop the job and ask!**

**Work is never so urgent or important that we cannot take time to do it safety.**

#### **6.4 Lift categorization assessment**

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## **Routine lift (part 1)**

If the answer to all questions above is “Yes”, proceed with the Routine lift.

Assessment Part 1 performed by \_\_\_\_\_

Job title \_\_\_\_\_

Date \_\_\_\_\_

Questions		Yes	No
<b>1</b>	Has the lifting operation been performed before?		
<b>2</b>	Is there a documented procedure?		
<b>3</b>	Are you experienced with all the lifting equipment to be used?		
<b>4</b>	Has the load been checked and made ready for lifting (e.g. sea fastenings released, hold down bolts removed)?		
<b>5</b>	Do you have the experience to lift a load of this weight?		
<b>6</b>	Is there lift in area free from obstructions and other possible hazards?		
<b>7</b>	Can the lifting operation be carried out without the use of Webbing Slings? Or is a site-specific procedure for the use of webbing slings in place?		
If the answer to any of the above is “ <b>No</b> ”, go to Part 2 (Simple Lift)			

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## **Simple lifting operation (part 2)**

	Questions	Yes	No
<b>1</b>	Do you know the weight of the load and does the lifting operation appear to be straightforward?		
<b>2</b>	If the load is heavier than you normally handle, do you have the relevant permission and/or permit?		
<b>3</b>	Is there a crane or certified support steelwork (e.g. runway beam or lifting eye) directly above the load?		
<b>4</b>	Does the load have certified lifting points (lifting eyes/collar eyebolts, etc.) fitted and if not, can slings be wrapped around easily (e.g. no sharp edges, load not fragile, etc.)?		
<b>5</b>	Is there ample headroom for the lifting appliance and slings?		
<b>6</b>	Is the lift stable (e.g. centre of gravity below lifting points)?		
<b>7</b>	Is the lift balanced (e.g. centre gravity in the middle) or fitted with special slings to compensate?		
<b>8</b>	Is the load free to be lifted (e.g. sea fastenings released, all hold-down bolts removed, not jammed, etc.)?		
<b>9</b>	Is the removal route clear of any obstructions?		
<b>10</b>	Can the removal (lift, transfer and landing) be performed without cross hauling?		
<b>11</b>	Is there suitable lay down area and does the load come within the allowable load bearing capacity of the ground/deck?		
<b>12</b>	Are you experienced in using all the lifting equipment and gear involved?		
<b>13</b>	Can the lifting operation be carried out without the use of Webbing Slings? Or is a site specific procedure for the use of webbing slings in place?		
If the answer to any of the above is “No” go to Part 3 (Complicated Lifts)			

If the answer to all questions above is “Yes” proceed with the Simple lift.

Assessment Part 2 performed by \_\_\_\_\_

Job Title \_\_\_\_\_

Date \_\_\_\_\_

**NOTE:** To the lifting operation nominated person:

If you can give solutions to the negatives in the above questionnaire to allow the lift to proceed safely, write the instructions in the box. If you cannot supply a solution, seek guidance from the Lifting Co-Coordinator.

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## **Complicated Lifts (part 3)**

The personnel about to perform the lifting operation shall complete the table below. Tick against factors, which are applicable and specific to this lifting operation and indicate whether or not you have the relevant experience to deal with them.

	QUESTIONS	Yes	No
1	Is the lift stable? (i.e. centre of gravity below the lifting points and not offset) .		
2	Is the center of the gravity for the load viewed as balanced and acceptable?		
3	Can the lift be performed without cross-hauling or being restrained?		
4	Does the load have specific lifting attachments?		
5	Is the load robust? (not fragile)		
6	Does the load have a limited surface area that will not cause instability in the wind?		
7	Does the load require only one crane? e.g: no tandem lifting		
8	Can the lift be performed without rotation?		
9	Uncertified structural components- can the lift be carried out safely without the need for MHC engineering calculations		
If the answer to any of the above is “No” go to Part 4 (Complex Lifts)			

If the answer to all questions above is “Yes” proceed with the Complicated Lifts.

Assessment Part 3 performed by \_\_\_\_\_

Job title \_\_\_\_\_

Date \_\_\_\_\_

Approved/Endorsed by \_\_\_\_\_

Job Title \_\_\_\_\_

Date \_\_\_\_\_

NOTE : To the Lifting Coordinator:

If you have experience and can advise personnel involved in the lifting operation how to deal with the complication, allow the task to proceed but only under your guidance. However if you decide that the operation is out with the scope of your competence, indicate the reasons applicable in the table in Part 4 complex lifts before passing it to the LTA

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## **Complex Lifts (part 4)**

Lifting operations or conditions, which would merit additional engineering input

	<b>REASONS FOR REQUESTING ENGINEERING INPUT</b>	<b>Tick box</b>
1	The lifting operation involves divers	
2	The lifting operation is sub-sea	
3	The load will be travelled over unprotected process plant and machinery	
4	The load is classified as heavy (as specified by Site Lifting Coordinator*) and is not being transported in CCU	
5	The lift involves a floating crane	
6	The load is critical to business	
7	The lift is in a confined space and/or an area with very restricted headroom.	
8	Use of non-certified structural components, which require engineering calculations	
9	Personnel Transfer / Man-riding activity where no approved site specific procedures exist	

Lifting Plan/Method Statement and Risk Assessment Part 4 performed by

\_\_\_\_\_

Job Title \_\_\_\_\_

Date \_\_\_\_\_

Approved/Endorsed by (delete as applicable)

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## Appendix 1

### Glossary of Terms

**Anomaly:**

A condition, which falls outside the present design criteria for the equipment.

**Asset**

Offshore complex, sub-sea facility, transportation line an onshore terminal and loading facilities.

**Azerbaijan Business Unit:**

All operations conducted by or on behalf of any Performance Unit or Project in Azerbaijan, Georgia, or Turkey.

**Lifting Equipment Engineering Association (LEEA):**

An independent organisation recognised as the technical authority within the industry responsible for establishing Codes of Practice and training standards.

**Non-Statutory examination:**

Examination carried out by a person deemed to be competent to determine whether or not a lifting equipment item is safe to use.

**Thorough Examination:**

Statutory examination carried out by a competent person for the purpose of certifying that an item of lifting equipment is free from patent defect and is satisfactory for further use as specified by the manufacturer.

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## Appendix 2

### Abbreviations

**ACO:** Approved Code of Practice for LOLER

**ASNT:** American Society of Non-Destructive Testing

**BU:** Business Unit

**CITB:** Construction Industry Training Board

**CCU:** Cargo Carrying Unit

**EMTA:** Engineering and Machines Training Association.

**ECITB:** Engineering and Construction Industry Training Board.

**IMR:** Inspection maintenance routine

**LOLER:** Lifting Operations and Lifting Equipment Regulations 1998, S.I.2307

**MHC:** Mechanical Handling Contractor

**NDT:** Non-Destructive Testing

**NVQ:** National Vocational Qualification

**OPITO:** Offshore Production Industry Training Organisation.

**PCN:** Personnel certification in NDT

**PMR:** Planned Maintenance Routine

**PPE:** Personal Protective Equipment

**PU:** Performance Unit

**PUWER:** Provision and Use of Work Equipment regulations 1998, S.I.2306

**RACI:** Chart detailing who is Responsible, Accountable, needs to be Consulted and who requires to be Informed for a list of actions.

**RTITB:** Road Transport Industry Training.

**SI:** Statutory Instrument

**SSOW:** Safe System of Work

**SVQ:** Scottish Vocational Qualification

**SWL:** Safe Working Load

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## **Appendix 3**

### **References**

1. Use of Equipment Directive (95/63/EC)
2. Health and Safety at Work etc. Act 1974
3. Management of Health Safety at Work regulations 1992 (MHSAWR)
4. Provision and Use of Work Equipment Regulations 1992 S.I.2306 (PUWER)
5. The Supply of Machinery (Safety) Regulations 1992 S.I.3073
6. Manual Handling Operations Regulations 1992
7. HSE 3268 Lifting Operations & Lifting Equipment Technical Guidance (Relevant to offshore lifting & handling appliances)
8. Safe system of work UNIF-HSE-PRO –206 (Issue 01 Rev00)
9. NSL: International Rigging and Lifting hand book 2001 Rev2.
10. UKCS-TI- 014.
11. BP North Sea Lifting Rules.
12. BS 7121 “Safe use of Cranes”
13. EN 12079 CCU's

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## Appendix 4

### Examples of Lifting Plans — Routine

	<b>AIOC Chirag 1</b>		<b>Lifting Operations Plan</b>	
	<b>Title</b>	<b>Tie in Dump Line</b>	<b>Area</b>	<b>M2a North</b>
	<b>Lifting Plan No.</b>	<b>CH-P-LP 07</b>	<b>Generic / Specific:</b>	<b>Specific</b>
	<b>Risk Assessment No.</b>		<b>Category Of Lift</b>	<b>Routine</b>
	<b>Date</b>		<b>Revision</b>	<b>Rev-1</b>
<b>Diagrams, Drawings or Sketches attached.</b>			<b>Max Weight of Load : Actual / Assumed / Calculated</b>	<b>100kg Calculated</b>
<b>Brief Description of Lifting Operation.</b>				
Remove existing spool and install tie in tee piece.				
<b>Certified Lifting Equipment and Accessories to be Used (Specify Type, SWL and Colour Code):</b>				
1 X 1te swl chain-blocks, 1 x 1te swl nylon slings, 21x 4.75te wll shackle, 1 x beam clamps. Colour code Green.				
<b>Cross Reference Relevant Procedures and Documents: ie DOG, engineering Calcs etc</b>				
N/A				
<b>All Lifting Operations Require The Following To Be Considered But This List Is Not Exhaustive</b>				
<b>Every Lift Every Time</b>		<b>Specify, Yes / No</b>		
<ul style="list-style-type: none"> <li>Pre-use equipment checks by competent person.</li> <li>All lifting equipment should have SWL identified.</li> <li>Weight, size, shape, certification and centre of gravity.</li> <li>Proximity hazards, obstructions, path of load, laydown area load bearing capacity</li> <li>Environmental conditions including weather / Sea.</li> <li>Responsibilities clearly defined eg rigger / slinger / banksman.</li> <li>Experience, competence and training of personnel.</li> <li>All lifts must be checked for loose objects.</li> <li>TRA level 1</li> <li>PTW to be raised</li> <li>Tool Box Talk – on site</li> <li>Check Certification – especially for non-standard lifts / loads from supply vessel (ie not CCU or Baskets)</li> </ul>		<ul style="list-style-type: none"> <li>Working under suspended loads. Yes</li> <li>Route adjacent to or over live plant: Yes</li> <li>Conflicting tasks in area/adjacent worksites. Yes</li> <li>Trial lift required. Yes</li> <li>Risk of overturning, Cross hauling, tandem lift: No</li> <li>Method of slinging/attaching/detaching the load. Yes</li> <li>Availability of certified lifting points. Yes</li> <li>Lift is in Crane Radius. N/A</li> <li>Safe access / Scaffolding. Yes</li> <li>TRA level 2 ? – agree with AA N/A</li> <li>Confirm No of Tag Lines Required: N/A</li> <li>Confirm Number of personnel required for task: 2</li> </ul>		
<b>Task Details (step by step)</b>				
Position the new spool above and to the North of the existing spool, secured to the 152mm x 300mm “I” beam using a beam clamp and 1te chain-blocks, this task will be completed prior to shutdown. Remove the dump line blind flange. Bolt up the new spool.				
<b>Methods of communication to be used :</b>		<b>Radio- / verbal-Yes / hand signals-</b>		
<b>Steps to be taken to eliminate danger to personnel: barriers / permit to work procedure/ toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate) All above</b>				
<b>Authorisation:</b>				
<b>Level of Operational Control: Area Authority / Permit to Work</b>				
<b>Engineering Support Required: No</b>				
<b>Competent Person</b>		<b>Signature</b>	<b>Date</b>	
<b>Reviewed by</b>		<b>Signature</b>	<b>Date</b>	
<b>De-brief and Learning Points</b>				

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### Examples of Lifting Plans – Simple

	AIOC Chirag 1		Lifting Operations Plan	
	Title	Shutdown BV/GV Change out WI Manifold.	Area	Well-bay
	Lifting Plan No.	CH-O-LP 008	Generic / Specific:	Specific
	Risk Assessment No.		Category of Lift	Simple
	Date		Revision	Rev-1
Diagrams, Drawings or Sketches attached.			Max Weight of Load : Actual / Assumed / Calculated	100kg Assumed
<b>Brief Description of Lifting Operation.</b>				
Change out Globe Valve No 36656 and Ball Valve 36655 using rigging equipment.				
<b>Certified Lifting Equipment and Accessories to be Used (Specify Type, SWL and Colour Code):</b>				
2 x 2te swl beam clamps, 3 x 4.75 wll shackles, 4 x 3mtr 1te swl wire slings, 1 x 1te swl chain-block, Colour code Green.				
Cross Reference Relevant Procedures and Documents: ie DOG, engineering Calcs etc				
N/A				
<b>All Lifting Operations Require The Following To Be Considered But This List Is Not Exhaustive</b>				
Every Lift Every Time		Specify, Yes / No		
<ul style="list-style-type: none"> <li>Pre-use equipment checks by competent person.</li> <li>All lifting equipment should have SWL identified.</li> <li>Weight, size, shape, certification and centre of gravity.</li> <li>Proximity hazards, obstructions, path of load, laydown area load bearing capacity</li> <li>Environmental conditions including weather / Sea.</li> <li>Responsibilities clearly defined eg rigger / slinger / banksman.</li> <li>Experience, competence and training of personnel.</li> <li>All lifts must be checked for loose objects.</li> <li>TRA or Baskets)</li> </ul>		<ul style="list-style-type: none"> <li>Working under suspended loads. Yes</li> <li>Route adjacent to or over live plant: Yes</li> <li>Conflicting tasks in area/adjacent worksites. Yes</li> <li>Trial lift required. Yes</li> <li>Risk of overturning, Cross hauling, tandem lift: No</li> <li>Method of slinging/attaching/detaching the load. Yes</li> <li>Availability of certified lifting points. Yes</li> <li>Lift is in Crane Radius. No</li> <li>Safe access / Scaffolding. N/A</li> <li>TRA level 2 ? – agree with AA</li> </ul>		
<b>Task Details (step by step)</b>				
Both valves will be installed using the same equipment: Pre-works Safely secure 2 x beam clamps to the overhead 152mm x 300mm “I” beams situated directly above and either side of the valve location, shackle a 3mtr sling to each beam clamp, shackle both lazy eyes together. Secure a 1te chain-block to the hanging shackle. Sling both new valves ready for installation. Change Out.				
<b>Methods of communication to be used :</b>		<b>Radio- / verbal-Yes / hand signals-</b>		
<b>Steps to be taken to eliminate danger to personnel:</b> barriers / permit to work procedure/ toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate) <b>All above</b>				
<b>Authorisation:</b>				
<b>Level of Operational Control:</b> Area Authority / Permit to Work				
<b>Engineering Support Required:</b> No				
Competent Person		Signature		Date
Reviewed by		Signature		Date
<b>De-brief and Learning Points</b>				

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### Examples of Lifting Plans – Complicated

	<b>AIOC Chirag 1</b>		<b>Lifting Operations Plan</b>	
	Title	Remove Runway Beam	Area	M2A CD
	Lifting Plan No.	CH-P-LP-002	Generic / Specific:	Specific
	Risk Assessment No.		Category Of Lift	Complicated
	Date		Revision Rev 1	Rev 1
Diagrams, Drawings or Sketches attached.			Max Weight of Load : Actual / Assumed / Calculated	1.4te Actual.
<b>Brief Description of Lifting Operation / Sketch:</b>				
Remove the maintenance runway beam.				
<b>Certified Lifting Equipment and Accessories to be Used (Specify Type, SWL and Colour Code):</b>				
4 x 2te swl chain-blocks, 8 x 3 et swl wire slings, 6 x 4.75 te swl bow shackles, 1 x 3te pull-lift. Colour code green.				
Cross Reference Relevant Procedures and Documents: ie DOG, engineering Calcs etc				
Ref; EQ KA00-EQ104.				
<b>All Lifting Operations Require The Following To Be Considered But This List Is Not Exhaustive</b>				
Every Lift Every Time		Specify, Yes / No		
Pre-use equipment checks by competent person.		Working under suspended loads. Yes/No		
All lifting equipment should have SWL identified.		Route adjacent to or over live plant: Yes/No		
<b>Weight, size, shape, certification and centre of gravity.</b>		Conflicting tasks in area/adjacent worksites. Yes/No		
<b>Proximity hazards, obstructions, path of load, laydown area load bearing capacity</b>		Trial lift required. Yes/No		
<b>Environmental conditions including weather / Sea.</b>		Risk of overturning, Cross hauling, tandem lift: Yes/No		
Responsibilities clearly defined eg rigger / slinger / banksman.		Method of slinging/attaching/detaching the load. Yes/No		
Experience, competence and training of personnel.		Availability of certified lifting points. Yes/No		
All lifts must be checked for loose objects.		Lift is in Crane Radius. Yes/No		
TRA level 1		Safe access / Scaffolding. Yes/No		
PTW to be raised		TRA level 2 ? – agree with AA Yes/No		
		Confirm No of Tag Lines Required: 1		
		Confirm Number of personnel required for task: 4		
<b>Task Details (step by step)</b>				
<p>Safety.</p> <p>All rigging equipment being used for this task will have a minimum SWL of 2Te.</p> <p>A minimum of 2 pieces of rigging equipment will support the beam at all times.</p> <p>Barriers must be erected to ensure nobody can walk under this load.</p> <p>A tannoy announcement will be made to stay clear of the area.</p> <p>Isolate the line of sight gas detectors. Ash 016.</p> <p>Care must be taken whilst rigging close to Ash 016, hold back rigging must be in place to ensure the beam does not touch the monitor.</p> <p>Pre-rigging</p> <p>Safely secure a 3 Te Swl sling 2.5mtrs from the North end of the runway beam.</p> <p>Safely secure 2 x 3 Te Swl sling 2.5mtrs from the South end of the runway beam.</p> <p>Safely secure 4 x 3Te chain blocks to the sub main deck 300mm x 152mm "I" beams.</p> <p><b>Safely secure 4 x 2te minimum swl wire slings directly under the chain-block locations , secure the chain blocks to the slings, take weight.</b></p>				
<b>Methods of communication to be used :</b>		<b>Radio / verbal Yes / hand signals</b>		
<b>Steps to be taken to eliminate danger to personnel:</b> barriers / permit to work procedure / tannoy / toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate)				
<b>Authorisation:</b>				
<b>Level of Operational Control:</b> Area Authority / Permit to Work				
<b>Engineering Support Required:</b> No				
Competent Person		Signature		Date
Reviewed by		Signature		Date
<b>De-brief and Learning Points</b>				

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### Examples of Lifting Plans – Complicated (continued)

	<b>Azfen fabrication yard quayside (Baku)</b>		<b>Lifting Operations Plan</b>	
	Title	Lifting plan for the purpose of lifting drilling template and associated floatation cradle (for testing and subsequently transportation).	Area	
	Lifting Plan No.	CH-P-LP-002	Generic / Specific:	Specific
	Risk Assessment No.		Category Of Lift	Complex
	Date		Revision Rev 1	Rev 1
Diagrams, Drawings or Sketches attached.			Max Weight of Load : Actual / Assumed / Calculat.	Cradle- (Design) 50500kg Template- (Design) 41600kg
<b>Task Details (step by step)</b>				
Method: Lift template onto the cradle using Titan crane barge (interface test as detailed in FAT E687) <ul style="list-style-type: none"> <li>Insuring adequately located access ladders are provided for access to the cradle.</li> <li>Attach 4 off 25 tonne safety bow tonne shackles to the lifting points/pad eyes (identified on drawing 3847/01).</li> <li>Whilst at ground level, attach 4 off single leg "jumper" slings (Single leg wire rope sling " 3,5Mx38mm dia, 6x36 IWRC RHOL Galv C/W soft eye each end, 18.6 tonne SWL template lift sling via 4 off 25 tonne shackles.</li> <li>Position the Titan crane hook at an appropriate height and position.</li> <li>Crane hook to swivel sling (2 leg wire rope Assy 3 metre x 64 mm dia, 6x36IWRC galv RHOL fitted to HA 70 ML masterlink C/W hard eyes all round.</li> <li>Attach a 55 tonne safety bow shackle to the aforementioned sling master-link.</li> <li>Fit 55 tonne swivel to the aforementioned 55 tonne safety bow shackle keeping any manual handling (lifting/bending) to an absolute minimum.</li> <li>Attach the other 55 tonne safety bow shackle to the bottom of the 60 tonne swivel.</li> <li>Attach the (2 off-2 leg wire rope sling assy 4.1Mx38mm dia 6XiwrC GALV RHOL fitted to HA 45 ML masterlink C/W hard eyes) and 4 off single leg template lifting sling assembly to the 55 tonne shackle via the master link.</li> <li>Attach tag lines to the end of the lift assembly.</li> <li>Under the supervision of the lift supervisor, slowly lift and position each individual sling assembly leg such as it can be assembled to the template via the 4 off previously attached 25 tonne shackles on the template.</li> <li>Position personnel in appropriate safe positions.</li> <li>Then commence when lift supervisor determines it is safe to do so, slowly lift the template and carry out the interface test As specified in E687.</li> <li>When test is determined to be successful, slowly lift the template from the cradle and place in an appropriate location in preparation for the other aspects of testing as specified in E687.</li> <li>Disconnect the lower 55 tonne safety bow shackle, remove template lift sling assembly lay-down in an appropriate position on the template. Taking care to ensure that all equipment is prevented from 'swinging' and manual handling is kept to a minimum.</li> <li></li> </ul>				
Methods of communication to be used :			Radio / verbal Yes / hand signals	
Steps to be taken to eliminate danger to personnel: barriers / permit to work procedure / tannoy / toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate)				
Authorisation:				
Level of Operational Control: Area Authority / Permit to Work				
Engineering Support Required: No				
Competent Person			Signature	Date
Reviewed by			Signature	Date
De-brief and Learning Points				

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### **Examples of Lifting Plans – Complex**

	<b>AIOC Chirag 1</b>		<b>Lifting Operations Plan</b>	
	<b>Location</b>	Chirag	<b>Area</b>	M2a
	<b>Lifting Plan No.</b>	CH-P-LP-002	<b>Generic / Specific:</b>	Specific
	<b>Risk Assessment No.</b>		<b>Category of Lift</b>	Complicated
	<b>Date</b>		<b>Revision</b>	Rev 1
<b>Diagrams, Drawings or Sketches attached.</b>			<b>Max Weight of Load : Actual / Assumed / Calculated</b>	1.4te Actual
<b>Lifting Operation – Plan / Sketch</b>				
<p>Procedure.</p> <p>Unbolt the runway beam's retention bolts, remove the bolts.</p> <p>Crosshaul the beam 4mtrs in a Southerly direction ensuring the beam is clear of the 3" deluge line running East to West.</p> <p>Lower the North end of the beam until clear of the new access platform.</p> <p>Crosshaul the beam in a Northerly direction 4mtrs, when the beam is clear of the mezzanine deck lower the South end of the beam.</p> <p>Lower the beam onto deck.</p> <p>Safely secure a 5mtr 3te swl wire sling 2mtrs North of the C of G, Safely secure a 3mtr wire sling 2mtrs South of the C of G.</p> <p>When the crane becomes available.</p> <p>Move the beam as far North as the walkway handrail.</p> <p>Secure the 5mtr sling to the crane hook, secure a 3te swl chain-block to the crane hook, secure the chain-block hook to 2mtr sling.</p> <p>Take weight on the 5mtr sling whilst the chain-block remains lazy, when the North end of the beam is above the handrail stop.</p> <p>Take weight on the chain block until the load is level.</p> <p>Secure a hand-line to the load, boom the load North until clear of the platform, lift the load to deck for backload.</p>				
<b>Competent Person</b>		Bob Forrest	<b>Signature</b>	<b>Date</b>
<b>Reviewed by</b>			<b>Signature</b>	<b>Date</b>
<b>De-brief and Learning Points</b>				

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### **Examples of Lifting Plans-Complex (continued)**

	<b>Azfen fabrication yard quayside (Baku)</b>		<b>Lifting Operations Plan</b>	
	Title	Lifting plan for the purpose of lifting drilling template and associated floatation cradle (for testing and subsequently transportation).	Area	
	Lifting Plan No.	<b>CH-P-LP-002</b>	Generic / Specific:	<b>Specific</b>
	Risk Assessment No.		Category Of Lift	<b>Complex</b>
	Date		Revision Rev 1	<b>Rev 1</b>
Diagrams, Drawings or Sketches attached.			Max Weight of Load : Actual / Assumed / Calculat.	Cradle- (Design) 50500kg Template- (Design) 41600kg
<b>Brief Description of Lifting Operation / Sketch:</b>				
<b>Certified Lifting Equipment and Accessories to be Used (Specify Type, SWL and Colour Code):</b>				
<b>Cross Reference Relevant Procedures and Documents: ie DOG, engineering Calcs etc</b>				
<ul style="list-style-type: none"> <li>E387 "BP1852-Floatation cradle Factory Acceptance" procedure.</li> <li>Certification of load test for lifting equipment.</li> <li>Load test certification for the lifting pad eyes for template and floatation cradle.</li> <li>Detail/capacity graph of Shirvan II.</li> <li>Drilling template drawing 3847/01</li> </ul>				
<b>All Lifting Operations Require The Following To Be Considered But This List Is Not Exhaustive</b>				
Every Lift Every Time		Specify, Yes / No		
<ul style="list-style-type: none"> <li>Pre-use equipment checks by competent person.</li> <li>All lifting equipment should have SWL identified.</li> <li>Weight, size, shape, certification and centre of gravity.</li> <li>Proximity hazards, obstructions, path of load, laydown area load bearing capacity</li> <li>Environmental conditions including weather / Sea.</li> <li>Responsibilities clearly defined eg rigger / slinger / banksman.</li> <li>Experience, competence and training of personnel.</li> <li>All lifts must be checked for loose objects.</li> </ul>		<ul style="list-style-type: none"> <li>Working under suspended loads. Yes/No</li> <li>Route adjacent to or over live plant: Yes/No</li> <li>Conflicting tasks in area/adjacent worksites. Yes/No</li> <li>Trial lift required. Yes/No</li> <li>Risk of overturning, Cross hauling, tandem lift: Yes/No</li> <li>Method of slinging/attaching/detaching the load. Yes/No</li> <li>Availability of certified lifting points. Yes/No</li> <li>Lift is in Crane Radius. Yes/No</li> <li>Safe access / Scaffolding. Yes/No</li> </ul>		
<b>Task Details (step by step)</b>				
Equipment to be utilized: <ul style="list-style-type: none"> <li>Drilling template lifting slings (2 off-2 leg wire rope sling assy 4.1M x 38mm dia 6 x IWRC galv RHOL fitted to HA 45 ML masterlink C/W hard eyes) and associated shackles (4 off 25 tonne safety bow shackles).</li> <li>4 off single leg 'jumper' slings (Single leg wire rope sling " 3.5 M x 38mm dia, 6 x 36 IWRC RHOL Galv C/W soft eye each end, 18.6 tonne SWL).</li> <li>2 off 55 Tonne safety bow shackles.</li> <li>Floatation cradle lifting slings (4 leg wire rope sling assy " 12.8 M x 44mm dia, 6 x 36 IWRC galv. RHOL fitted to HA 70 Quad assy complete with hard eyes all round, 24.8 tonne per leg SWL, H183000) and associated shackles (4 off 35 tonne safety bow shackles).</li> </ul>				
<b>Methods of communication to be used :</b>		<b>Radio / verbal Yes / hand signals</b>		
<b>Steps to be taken to eliminate danger to personnel:</b> barriers / permit to work procedure / tannoy / toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate)				
<b>Authorisation:</b>				
<b>Level of Operational Control:</b> Area Authority / Permit to Work				
<b>Engineering Support Required:</b> No				
Competent Person		Signature		Date
Reviewed by		Signature		Date
<b>De-brief and Learning Points</b>				

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### **Examples of Lifting Plans-Complex (continued)**

	<b>Azfen fabrication yard quayside (Baku)</b>		<b>Lifting Operations Plan</b>	
	Title	Lifting plan for the purpose of lifting drilling template and associated floatation cradle (for testing and subsequently transportation).	Area	
	Lifting Plan No.	<b>CH-P-LP-002</b>	Generic / Specific:	<b>Specific</b>
	Risk Assessment No.		Category Of Lift	<b>Complex</b>
	Date		Revision Rev 1	<b>Rev 1</b>
Diagrams, Drawings or Sketches attached.			Max Weight of Load :	Cradle- (Design) 50500kg Template- (Design) 41600kg
<b>Task Details (step by step)</b>				
<p>Attachment 1 :- Load test certificate for template lift eyes</p> <p>Attachment 2 :- Load test certificate for Cradle lift eyes</p> <p>Attachment 3 :- Load test certificate for 75 tonne, cradle sling, 12800mm.</p> <p>Attachment 4 :- Load test certificate for 50 tonne, 4 leg template sling, 3800mm.</p> <p>Attachment 5 :- Load test certificate for 25 tonne safety bow shackles</p> <p>Attachment 6 :- Load test certificate for 55 tonne safety bow shackles.</p> <p>Attachment 7 :- Load test certificate for 60 tonne, 2 leg crane hook to swivel sling, 1000mm eye.</p> <p>Attachment 8 :- Load test certificate for Shirvan II crane barge.</p> <p>Attachment 9 :- Detail and load capacity graph for Shirvan crane barge.</p> <p>Attachment 10:- S01-166-01 Cradle from dockside lift.</p> <p>Attachment 11:- S01-166-02 Template to cradle lift.</p> <p>Attachment 12:- Factory Acceptance Test (FAT) procedure E389.</p> <p>Attachment 13:- Load test certificate for 55 tonne swivel.</p> <p>Attachment 14:- Template drawing (lift arrangements) 3874/15.</p> <p>Attachment 15:- Cradle drawing lifting arrangements 3874/17.</p> <p>Attachment 16:- Detail and load capacity for Titan crane barge.</p> <p>Attachment 17:- Crane hook to swivel sling (2 leg wire rope Assy " 3 metre x 64mm dia, 6 x 36 IWRC galv RHOL fitted to HA 70 ML masterlink C/W hard eyes all round.</p> <p>Attachment 18:- 25 tonne safety bow shackle.</p>				
Methods of communication to be used :		Radio / verbal Yes / hand signals		
Steps to be taken to eliminate danger to personnel: barriers / permit to work procedure / tannoy / toolbox talks / lifting plan / no conflicting tasks in the area. (delete as appropriate)				
Authorisation:				
Level of Operational Control: Area Authority / Permit to Work				
Engineering Support Required: No				
Competent Person		Signature		Date
Reviewed by		Signature		Date
De-brief and Learning Points				

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## Appendix 5

### **Check List for Pre-use Mobile Crane Inspection Form**

At the beginning of each shift or working day that the crane is in use, the following routine as appropriate for the type of crane shall be carried out as a minimum.

**NOTE:** this list shall be added to (by Site Lifting Coordinator) for specialized equipment, e.g. vacuum lifting equipment.

To Be Completed By Site Competent Person (Deck Forman/Site Lifting and Rigging Supervisor)		Comments
1	Owner	
2	Crane Model	
3	Date Of Last Inspection	
4	Date Of Last Test	
5	Current Cert No.	
6	Makers Serial No.	
7	Visual Examination of Jib Sections	
8	Function test of Limit/Safety Devices	
9	Outriggers, functioning properly and can take the full weight of the Crane/load	
10	Daily checks specified in the manufacturer's handbook.	
11	A check that all ropes are correctly positioned in their sheaves and that drums are not displaced.	
12	A visual check that electrical equipment is not exposed to contamination by oil, grease, water or dirt.	
13	A visual checks by inspecting relevant levels and/or components, that no loss of fluids (e.g. lubricant oil, coolant) is apparent.	
14	A check for correct operation of all limit switches or cut-outs and the dead man's handle or lever, applying caution during checking in case of malfunction.	
15	A check that the automatic safe load indicator is correctly set and that the manufacturer's daily test is carried out.	
16	A check that the correct air pressure is maintained in any pneumatic control system (e.g. brakes).	

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17	A check that lights, windscreen wiper(s) and washers operate efficiently.	
18	A visual check for security of wheels and the condition of tyres, on wheel-mounted cranes.	
19	A check for correct function of all crane controls without load.	
20	A check for correct operation of audible warning devices.	
21	A check that the crane is in tidy condition and free from tins of oil, rags, tools, or materials other that sufficient access and egress are provided, and that appropriate fire fighting equipment is available.	
22	A check that there are no obstructions in the path of travel of the crane.	
23	Drivers experience to be reviewed.	
24	Crane maintenance / certification to be reviewed.	
25	Written pre-use check to be carried out prior to crane use.	

**\* Extracted from standard BS 7121 - this list does not replace the standard Crane Driver Check List**

**Crane accepted/rejected (underline).**

**Name:**

**Position:**

**Date:**

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## Appendix 6

### **Check List for Suitability of cranes for man-riding operations.**

**Due to specific verification requirements, the suitability of cranes for man-riding, shall be assessed by Site Manager and Site Liting Coordinator for each and every operation.**

		Yes	No
<b>1</b>	Has it been established that no other viable option of carrying out the work is available?		
<b>2</b>	Are all the necessary certificates for the crane wire ropes, slings and other associated equipment current?		
<b>3</b>	Has the crane and associated equipment been thoroughly inspected by a suitably qualified/competent person within the last 6 months?		
<b>4</b>	Is the crane in good condition, regularly inspected and maintained and are records kept to substantiate this?		
<b>5</b>	Are all the safety features and systems working properly? e.g. Rated Capacity Indicators (RCIs), overhoist limiters, etc.		
<b>6</b>	In the event of a complete power failure, will the crane maintain the load in a safe condition (e.g. do the brakes fail to the applied position)?		
<b>7</b>	Are the brakes applied progressively (e.g. to avoid shock or snatch loading)?		
<b>8</b>	In the event of a complete power failure can the personnel be recovered safely? (Is there a recovery plan in place).		
<b>9</b>	In the event of a primary brake or transmission system failure, will the load be prevented from free-falling (e.g. is there a secondary braking system or does the transmission system have hydraulic retardation to prevent this)?		
<b>10</b>	Is the crane fitted with an emergency stop, which is located for immediate operation by the crane operator?		
<b>11</b>	Is the crane so designed that inadvertent freefall is prevented when the drive train is in motion or the hook is loaded?		

If you Answer **NO** to any of these questions **DO NOT** carry out man-riding operations

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## Appendix 7

### BP North Sea Lifting Rules

The following fundamental rules will be applied to all lifting operations with zero tolerance:

1. All personnel must keep out of any area where they might be injured by a falling or shifting load. Do not stand below loads. Never stand between loads and walls/bulkheads etc. Always ensure an escape route is available.
2. Immediately a lift deviates from plan or any complication arises the lifting operation must be stopped and made safe. All personnel should remain in positions clear of the lift until reassessment/re-planning of the lift is carried out.
3. Lifting operations will be undertaken by a minimum of three competent people: crane operator, banksman/flagman and load handler.
4. The banksman/flagman controls the initial lifting of the load, lay down of the load and lifts that are out of the line of vision of the crane operator. The crane operator is responsible while the load is in the air. The banksman must:
  - a) Ensure that he/she is easily identifiable from other personnel by wearing a hi-vis jacket or waistcoat, which is clearly marked to indicate that he/she is the authorized crane banksman.
  - b) Not touch the load. He/she must stand back from the load being handled in a prominent position where he/she has a good view of the lifting activities.
  - c) Remain in communication with the load handler and crane operator at all times.
  - d) Keep the load handler in sight during the lifting operation.
5. The load handler must:
  - d) Stand clear while a load is lifted clear of the deck and landed, while slack is taken up with or without a load on the hook and must confirm to the banksman that he is clear.
  - e) Not touch a load being landed until it is below his/her waist height and never attempt to manually stop a swinging load.
  - f) Be easily identifiable, and distinct from the banksman.
6. For BP operated installations and onshore sites there will be no stacking of containers, baskets, tanks and half heights.

For designated installations where this is not practicable, stacking requires prior permission of the relevant Business Unit Leader and:

- f) Equipment is specifically designed for that purpose, and clearly marked as suitable for stacking.
- g) Stacking is confined to pre-designated areas.
- h) Risk assessment of stacking operations is performed and shows that the risk involved alternative practicable approaches.
- i) Stacked containers must have an additional pennant so that the crane hook can be attached/detached while the load handler is standing at deck level.
- j) Stacking and de-stacking is controlled by permit.

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The attached notes are an integral part of these rules.

#### Notes:

These rules were developed for deck lifts or deck/boat lifts using pedestal cranes on offshore installations. They will also be applicable to similar lifts using mobile cranes, crawler cranes etc on BP operated onshore sites.

For lifts with other devices (e.g. workshop cranes, winches, hiabs) rules 1 and 2 will always be applicable. Consider the application of rules 3-6 during job planning and risk assessment.

The rules do not specifically apply to the holding in position of items of equipment during well servicing/wire line activities. These specialist activities should be covered by job specific procedures, permit and detailed risk assessment.

1. Rule1: This includes not getting under slung loads, not getting into areas where they could be trapped between the load and something else. Third parties not involved in the lifting operation also have a responsibility to keep out of areas where lifting is being conducted. This rule is now added to the GBC Golden Rules website and will be incorporated into the Golden Rule booklets at the next revision.
2. Load Handler may also be designated as Slinger, Deck Operator or Hookman.
3. Rule 5b) In some essential lay-down areas it is necessary to manoeuvre containers into limited landing areas adjacent to handrails, where the handrails are slightly in excess of waist height. Where it is considered essential to continue using these lay-down areas, and the lowest practicable risk is provided by touching the load above waist height to orient it, installations must identify and document steps to be taken to mitigate the risk to the load handler.
4. i) The intention is to eliminate stacking of containers and other loads as identified in rule 6.
  - ii) For some installations (particularly some MODU's) this may not be practicable due to limitations on deck space. Exception to the no stacking rule is intended to cater for these installations and not to provide a general opportunity for all installations to stack as soon as deck space becomes congested.
  - iii) BU's must be designated on which installations this is not practicable and where stacking may be undertaken and document why the decision to allow stacking was made.
  - iv) For those installations where no stacking is not currently practicable, a review should be undertaken to consider what would be required to be able to operate on a no stacking basis.
  - v) However, after appropriate review and documentation, particular equipment (e.g. sphere racks in SNS) may be authorized as suitable for stacking even though stacking of other containers is banned on that installation.
  - vi) Assets should reassess the design of equipment currently designated as suitable for stacking, to confirm that it is fit for purpose both loaded and empty.
  - vii) Installations who intend to designate equipment or areas suitable for stacking should consider using the MOC process to review and document the justification.

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5. These rules are not exhaustive. They reinforce behavioral aspects of lifting. Procedural and equipment issues such as risk assessment, lifting equipment specification, lifting plans, regulation (e.g. LOLER in UK) are also essential to safe lifting. Crane drivers, load handlers and check operators should comply with contractors' procedures, comply with regulatory requirements, use risk assessments and toolbox talks where appropriate and must be prepared to stop the job at any stage if the safety of the operation may be compromised.
6. The Deck Operations and Lifting Forum is currently working with crane and deck operations contractors to identify best practice and establish common procedures for all contractors. New UK standard operating procedures will be developed from this review. This forum will be explained to include Norway and Netherlands.
7. These rules are immediately applicable. Although issued under the overall authority of the Regional Leadership team, for document control purposes they will be maintained as separate controlled documents within the Management System in UK, Norway and Netherlands.

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## Appendix 8

### BP AzBU reference document for the Selection, Application and Control of Man Made Fiber Slings For Lifting Operations

#### Purpose

The purpose of this reference document is to describe the current AzBU Policy and Procedures for the safe selection, application and control of man-made fibre slings for lifting operations, their subsequent inspection requirements and discard process following completion of the lifting operation.

**The use of any type of man made fiber slings in lifting operations will automatically categorize the lift to at least “Complicated.”**

Certification for this type of sling is valid for 6 months only after which time it will be removed from service and destroyed. **NO RECERTIFICATION.**

#### Introduction

All lifting operations on AzBU sites, including those undertaken by third party contractors, shall be implemented under the principles of Lifting Operations & Lifting Equipment Regulations (LOLER 98/SI-2037).

Regulation 8 of LOLER stipulates that **all** lifting operations using Lifting Appliances and Accessories should be carried out in a safe manner, under adequate supervision and following a lifting operation risk assessment and predetermined plan. The degree of planning is dependent on the lifting equipment to be used, the category of the lifting operation and the degree of risk involved.

#### Lifting Sling Selection

When planning the lifting operation consideration should be given to the working load limit, the mode of use, the nature of the load and the environment in which it is to be used. Wherever possible, it is recommended that wire rope slings be used for lifting operations. Never use a man made fiber sling of any type if, during the lifting operation, it can be subjected to shock or snatch loading and never use this type of sling on boat lifting operations.

Man made fibre slings are available in five basic formats, the two most commonly used in lifting operations are the Flat Soft Becketed Eye type webbing sling and the Endless Round Sling.

The Endless Round sling is the most adaptable for general-purpose use as they are more flexible, and when choked, provide a more efficient ‘grip’ on the load.

Flat Soft Becket Eye type webbing slings are more suitable for use in a “basket type” lifting mode rather than in ‘choke’ mode.

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## Examination and Discard Criteria

Slings constructed in man-made fibers are easily damaged and can be sensitive to chemical attack.

Strength is lost if there are any cuts, tears, abrasion, fraying and burst stitching, therefore this sling type requires close examination by a competent person for any signs of damage prior to every lifting operation.

Endless Round Slings are manufactured with an outer protective sheath, which prevents the ingress of chemicals and dirt, which can lead to the deterioration of the sling fibers in service. The protective sheath also makes the examination for defects more difficult and onerous than that of the Flat Webbing Sling.

### Man-Made Fibre Endless Round Slings:

Endless Round slings shall only be used for general purpose lifting duties on the site providing the sling has a current certificate of conformity and there is an approved lifting plan and risk assessment for the operation. Site Lifting Coordinator shall inspect slings for suspected or evident damage prior to use. The sling(s) shall be physically removed and destroyed if any damage is suspected or evident.

Certification for this type of sling is valid for 6 months after which time it will be removed from service and destroyed.

### Man-Made Fibre Flat Webbing Slings:

Flat Webbing Slings shall only be used for special lifts where the component to be lifted can be damaged by the use of conventional wire rope slings. Flat webbing slings shall be used for lifting duties on the site providing the sling has a current certificate of conformity and there is an approved lifting plan and risk assessment for the operation. Site Lifting Coordinator shall inspect slings for suspected or evident damage prior to use. The sling(s) shall be physically removed and destroyed if any damage is suspected or evident.

Certification for this type of sling is valid for 6 months after which time it will be removed from service and destroyed.

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## Appendix 9

### Wind Force Scale

Wind Force in points		Wind Force, mps	Wind Force, knots
0	Calm	0-0.5 (0)	0-0.97 (0)
1	Light air	0.6-1.7 (1)	1.16-3.3 (1.9)
2	Light breeze	1.8-2.3 (2.1)	3.5-4.5 (4.1)
3	Gentle breeze	3.4-5.2 (4.5)	6.6-10.1 (8.7)
4	Moderate breeze	5.3-7.4 (6.5)	10.2-14.4 (12.6)
5	Fresh wind	7.5-9.8 (8.5)	14.5-19.1 (16.5)
6	Strong wind	9.9-12.4 (11)	19.2-24.1 (21.4)
7	High wind	12.5-15.2 (14)	24.2-29.5 (27.2)
8	Very hard wind	15.3-18.2 (17)	29.7-35.4 (33.04)
9	Storm	18.3-21.5 (20)	35.5-41.8 (38.8)
10	Hard storm	21.6-25.1 (23)	41.9-48.8 (44.7)
11	Heavy storm	25.2-29.0 (27)	48.9-56.4 (52.5)
12	Tornado	More than 29.0	More than 56.4

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## Appendix 10

### AzBU Lifting SSOW Coverage

<b>Covered by AzBu Lifting SSOW</b>	<b>Not Covered by AzBU Lifting SSOW</b>
Sangachal Terminal (EOP)	Project Construction activities at SPS, STEP, ATA, including offshore construction and installation
Chirag-1, including drilling operations	Sangachal Shore Approach
Supsa Terminal	Offshore Pipe lay
SPS Base (Operations Supply Base)	Zykh Yard
WREP	Dada Gorgud drilling rig
WREP Pump Stations: PS5, PS8, PS11, PS13, PS15, PRS1, PRS2.	Istiglal drilling rig
WREP Pigging Station: PS2	BTC Construction Project activities
NREP	SCP Construction Project activities
NREP Pump Stations: Sumgait Metering Station (BP controlled side), Siyazan Injection Station, Shirvanovka Metering Station.	Port Operations in Baku, Poti & Batumi Ports
	Eupec pipe coating yard
	Third Extension of TISA
<p><b>NOTE: Once project construction activities cease and facilities and pipelines are handed over to operations, the AzBU Lifting SSOW will apply on BP managed sites. BP will also expect equivalent systems to be in place on sites where it has a material influence, eg Botas International Ltd BTC operational sites.</b></p> <p><b>The AzBU Lifting SSOW would not apply to contractor operations in countries other than Azerbaijan and Georgia, including Engineer, Procure and Construct (EPC) projects.</b></p>	

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