



lifting &
mechanical handling
guidelines



STEP CHANGE IN SAFETY



Items being lifted or mechanically handled have the potential to cause serious injury. This has been seen in the last few years where a number of fatalities and serious accidents have occurred during lifting and mechanical handling operations. As a result of this, there is a strong desire within the oil and gas industry to improve the safety performance of such operations. To achieve this aim, a work group was established to produce these Lifting and Mechanical Handling Guidelines.

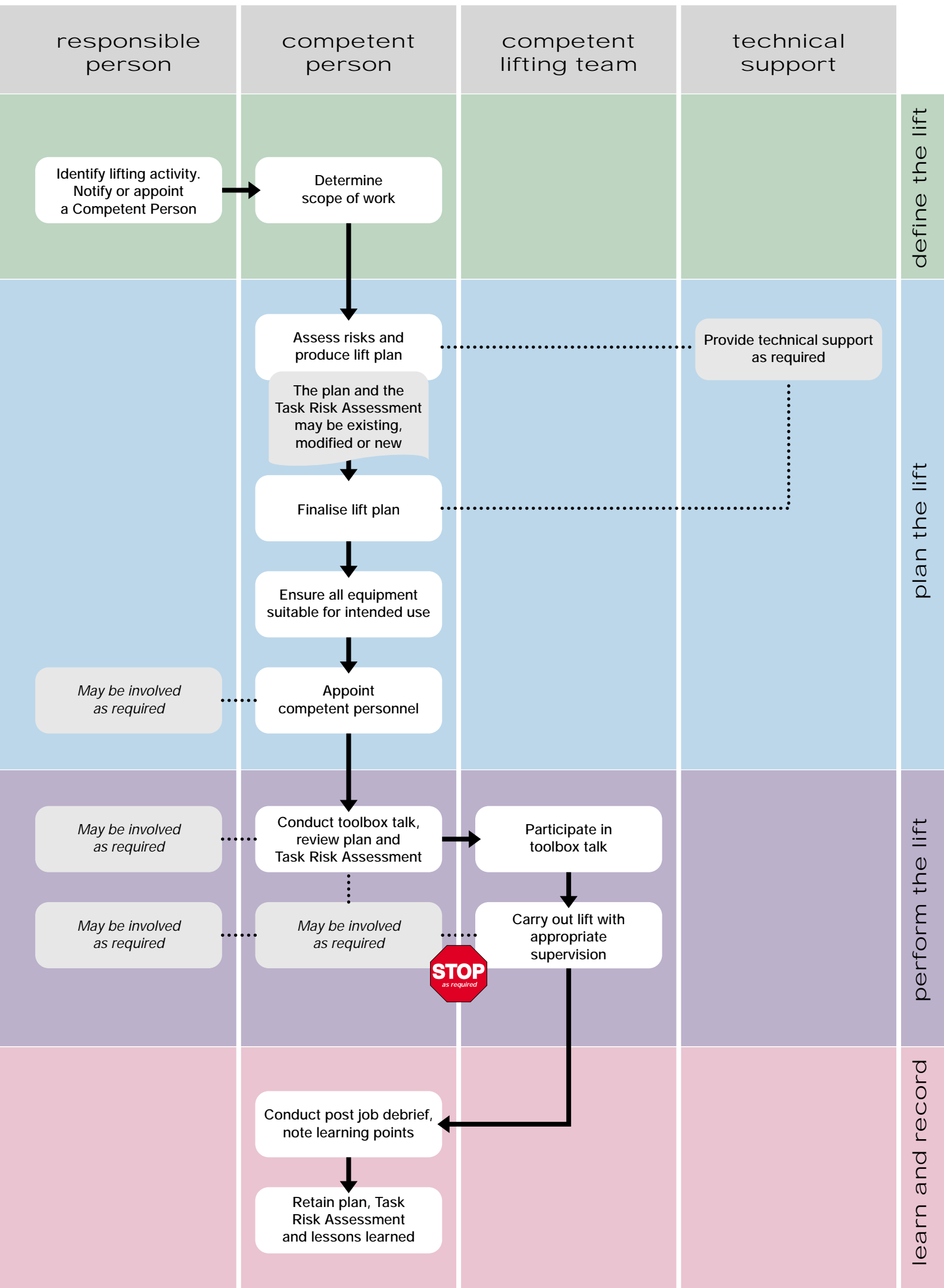
The guidelines define the responsibilities, training, competencies and assessment of those involved in lifting and mechanical handling operations, and set out a structured approach to ensure that such operations are systematically planned and carried out safely. They also provide examples of key documents such as lift plans and checklists which can be used where no similar document exists or to benchmark those that do.

These guidelines are therefore aimed at all personnel involved in lifting and mechanical handling operations, particularly those who plan these operations and the supervisors of those personnel performing them.

The guidelines were produced after extensive analysis of current practice in the UK. They are intended to provide examples of best and latest practice, assembled by specialists in this field. They are not meant to be prescriptive or imply only one way of doing things, nor are they intended to replace or take precedence over recommendations, policies and procedures judged as safe as or safer than what is noted here. Step Change hopes that individuals and companies will use the guidelines as a minimum standard and that they will find ways to exceed and improve upon what is offered herein.



planning of lifting operations



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how to use this document

In compiling these Lifting and Mechanical Handling Guidelines, it was recognised that many organisations already have processes and procedures that work well. With this in mind, they are designed to provide guidance in two ways:

1. To enable you to assess your current working methods against the principles put forward here and so help you identify improvements to those methods in line with current best practice.
2. To allow you to adopt improved methods for lifting and mechanical handling operations, based on current best practice.

This document puts forward a model for planning lifting and mechanical handling operations, similar to many used in our industry already. This model, illustrated inside the front cover, has been designed to be practical and easy to use.

Information on the responsibilities of those involved in lifting and mechanical handling operations is given, as well as a definition of minimum standards of competency for carrying out such work.

Definitions of key terms are included at the end of the document.

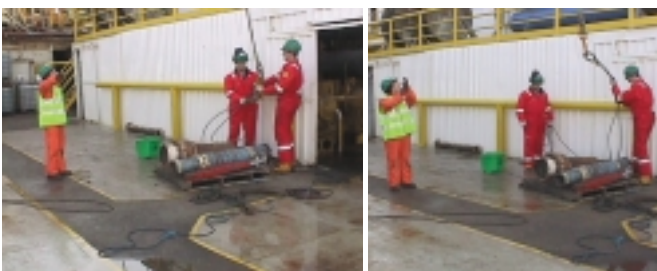
Each company shall ensure that all personnel involved in lifting and mechanical handling operations clearly understand their responsibilities. When deficiencies in training and competency have been highlighted, it is the duty of the employer to take appropriate action to address the situation.

introduction

Because of their hazardous nature, lifting and mechanical handling activities can and do result in serious harm to personnel, damage to plant, equipment or the environment, and business loss. This document describes the key components necessary to ensure that such activities are carried out safely, and in compliance with UK legislation such as The Lifting Operations and Lifting Equipment Regulations (LOLER). It also helps in meeting the requirements of other relevant regulations including the Management of Health and Safety at Work Regulations (MHSWR) and the Provision and Use of Work Equipment Regulations (PUWER).

These components are:

- The planning of the lifting operation with the development and implementation of a documented lift plan
- Suitable and adequate assessment of the risks associated with the lifting operation
- Correct selection and use of appropriate equipment
- Use of equipment which is maintained and in good condition
- Clarity on the roles, responsibilities and who is in control of the lifting operation
- Involvement of suitably trained and experienced personnel who have been assessed as competent
- Maintenance of databases of approved risk assessments and lift plans
- Implementing lessons learned.





responsibilities

Everyone involved in lifting and mechanical handling operations has specific responsibilities. These are defined in the following paragraphs:

3.1 Responsible Person

The **Responsible Person** is the person who has overall responsibility for work activities. This person may be the Shift Supervisor, Base Manager, Project Engineer or Toolpusher, for example. The Responsible Person recognises, or is advised of, the need for a lifting activity and either notifies the Competent Person or appoints a Competent Person to plan the lifting operation.

3.2 Competent Person

The **Competent Person** is someone who has the required level of competency to plan and supervise lifting operations. He must have the practical skills, theoretical knowledge and ability to carry out risk assessments, produce and assess lift plans and conduct toolbox talks. The Competent Person may or may not supervise the lifting operation but is the focal point of authority for the technical aspects of the lift. He must know his competency limitations, work within them and know when technical support is needed. The level of competency required to perform this role is included in Section 5 of this document.

The Competent Person is responsible for appointing the team to complete a lift. He must ensure that the team members have the competencies to complete the job and the tasks entailed.

3.3 Competent Lifting Team

Each team member has the responsibility to know and work within their own competency to complete the job. They are required to attend and participate in toolbox talks, carry out pre-use inspections of lifting equipment and stop any operation when they are concerned about its safety.

3.4 Technical Support

Those providing technical support must be technically competent in the area of expertise upon which they are requested to advise.

the lift

4.1 Define the Lift

Identify Lifting Activity

The Responsible Person should identify or be informed of the need for a lifting operation and inform the Competent Person or appoint a Competent Person. The Competent Person will plan and, if appropriate, supervise the lifting operation.

Determine Scope of Work

The Competent Person must begin his planning process by determining the scope of work – defining what is to be done, who should be involved, how it will be conducted. This may require an initial lift plan, sketches, notes etc. If additional technical support is required, it should be obtained before proceeding.



4.2 Plan the Lift

Task Risk Assessment

Every lifting operation will be risk assessed by the Competent Person before the work begins. The Competent Person will ensure that appropriate controls are in place for those hazards identified in the written risk assessment such that the risks are managed as an integral part of the lift plan. A suitable documented risk assessment may already exist for 'routine' lifts. If so, the existing risk assessment must be reviewed for its applicability. If any significant changes are required to the existing risk assessment, for example there are additional risks not accounted for, a new risk assessment must be produced.



An example of a Risk Matrix is given in the Appendices.

TRA forms are available from the Step Change in Safety Task Risk Assessment Guide.

Lift Plans

The lift plan is intended to clearly identify the Competent Person planning the lift, the lifting operation to which it relates, step-by-step instructions for carrying out the lift, the equipment required, and the activity assigned to each person. Many employers have systems in place to enable the lifting operation to be classified as 'routine' or 'non-routine'. For routine lifts, the lift plan may be 'generic' in nature but will still be reviewed prior to each lift, or before a series of similar lifts. For 'non-routine' lifts, this may be further classified, for example in terms of simple, complicated and complex. The classification of lifting operations is designed to give the Responsible Person and Competent Person additional guidance in terms of the risk assessment, planning, supervision and the competence requirements of the personnel performing the lifting operation.

The nominated Competent Person will approve every lift plan.

An example lift plan is included in the Appendices.

the lift

Analysis of recent lifting-related fatalities in the North Sea has identified a common factor where personnel mistakenly consider that a 'routine' lifting operation is therefore a 'safe' lifting operation.

A review with regard to the continued applicability of the Task Risk Assessment and Lift Plan for these 'routine' lifting operations must be carried out and these must be discussed at the Toolbox Talk.

Technical Support

In the planning stage of the lifting operation, there will be occasions when the Competent Person identifies the need for additional technical support. A technical authority review is undertaken by someone who has the necessary competencies to make an informed and impartial judgement on the lift plan. This may range from another Competent Person reviewing the lift plan to the involvement of a structural engineer to check the loadings on beams or laydown areas.

It is important that those acting as Competent Persons acknowledge that there will be limits to their expertise and that they are aware of the personnel available to provide them with technical support when required.

Finalise Lift Plan

After completion of the risk assessment, the lift plan must be checked to ensure that all the hazards identified in the risk assessment have been managed through the control measures detailed in the lift plan.

Selection of Lifting Equipment

The Competent Person will have identified the appropriate lifting equipment and accessories required. It is essential that the equipment being used is certified, fit-for-purpose and visually checked for any defects etc before being used. The Competent Person must take into consideration:

- The technical specification and integrity of equipment (PUWER Assessment)

- The place where it will be used
- The conditions under which it will be used
- The purpose for which it will be used
- Inherent risks to health and safety as a result of its use
- Ergonomic risks
- Manual handling.

The lifting equipment provider must ensure that all lifting equipment and lifting accessories are subjected to a thorough examination scheme and in-service inspections to ensure continued integrity. The use of a colour code system to identify examined equipment is recommended.

Selecting Competent Personnel

Only suitably Competent Personnel should be involved in lifting operations. Personnel should be trained, assessed and monitored as part of a Competency Scheme.

Section 5 details the competency standards expected of personnel involved in lifting operations in the various sectors of the oil and gas industry.

There are a multiplicity of different types of lifting operations onshore/offshore, on platforms or floating vessels, using various types of lifting equipment, with a wide range of items to be lifted. It would be impractical to develop guidance for every specific lift.

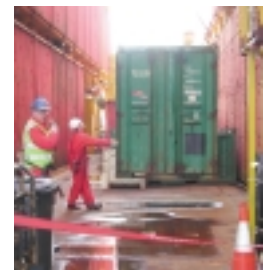
Personnel in a lifting team, especially the person in charge of a lifting operation, must always bear in mind that if they consider that the operation exceeds their level of competency, they must stop the operation until a suitably Competent Person is able to assist or take over.

the lift

Other interested parties should not bring pressure to bear on personnel performing lifting operations.

Although the person in control of the lifting operation is responsible for ensuring the lifting operation is carried out in a safe manner, all personnel involved also have a responsibility for ensuring that the lift is carried out safely.

The Competent Person, when planning the lift, must ensure that the selected personnel have experience of, and demonstrated competency in, the safe use and operation of the equipment and techniques required to perform the lifting operation.



4.3 Perform the Lift

Review and Toolbox Talk

Once the lift plan has been approved, the Competent Person will hold a toolbox talk with all the appointed personnel involved in carrying out the lift. At the toolbox talk, individual responsibilities will be allocated including identification of who will be in control of the lifting operation. During the toolbox talk, all personnel will review the findings of the risk assessment and the lift plan, and discuss these step-by-step to ensure that everyone clearly understands and agrees with the methods and control measures to be used.

If, after discussion, there is an agreed change to the risk assessment and/or lift plan, the Competent Person will amend the documentation and seek re-approval.

Example Prompt Cards providing guidance on planning and performing lifts and Toolbox Talk Forms are included in the Appendices.

Conducting the Lifting Operation

The lifting operation will be conducted following the agreed and approved lift plan, using current and industry best practice. Many operators and lifting contractors publish their own guidance documents on lifting techniques, equipment specifications, pre and post-use inspection checksheets etc and these should be referenced.

It is important that lifting equipment is only used in accordance with the manufacturers' operating instructions and reference should be made to them.



Everyone involved in the lift has the responsibility to stop the lifting operation at any time if they believe the operation could, or has, become unsafe or there is a change from the agreed plan.

the lift

A safety observation programme provides a means of encouraging safety observations and prompting individuals in recognising unsafe acts and unsafe conditions. The following 9 'Steps to Safety' identify the key elements of such a programme:

1. Decide

Decide to carry out the observation, gather any relevant information on the area or task.

2. Observe

Use all your senses during the observation and be prepared to intervene or stop the job, if needed.

3. Introduction

Introduce yourself, put people at ease. If you already know the person, this may be more informal.

4. Explain

Explain that you are carrying out a safety observation and the benefits to them and the team (eg to acknowledge safe behaviours and to discuss any safety improvements).

5. What is the job?

Use open questions to start a discussion on what the person is doing.

6. Praise

ALWAYS start with safe behaviours. Building on motivational feedback encourages openness and communication. Give specific examples and say why they are important to reinforce safe behaviours. State sincerely what you want to say. Be honest but do not patronise.



For additional useful guidance, refer to the Step Change in Safety Look This Way Safety Observation Systems guidance booklet.

7. What can go wrong?

The discussion should focus on what was observed to be unsafe. Use open questions to involve the person and allow them to state the unsafe behaviour so they 'own' it. Explore the consequences and try to get the person to see all the effects on the person, team, family etc.

8. Why unsafe behaviour?

Explore the reasons for the unsafe behaviour. Look for the causes and then the root causes.

9. What corrective action is needed?

See if they have any ideas on how to do the job or task more safely. Get them to offer the solutions. Get agreement on changes to be made. Record the observation.

4.4 Learn and Record

Post Job Debrief and Learning Points

After completing the lifting operation, everyone involved in the lift has the opportunity to discuss and make improvements to the lift plan. Any learning points noted on the plan will be reviewed by the Competent Person and actioned, as appropriate. For example, this may include feedback on equipment effectiveness, lifting techniques, etc.

Companies should ensure that the significant learnings and improvements identified from lifting operations are recorded and communicated to all relevant parties.



training and competency

All personnel involved in lifting and mechanical handling operations should be trained, have the required experience for the type of lift to be undertaken, and be formally assessed as competent.

5.1

Personnel Undertaking Lifting and Mechanical Handling Operations

The diagram on page 9 shows the four key stages that an individual has to pass through to reach full competency.

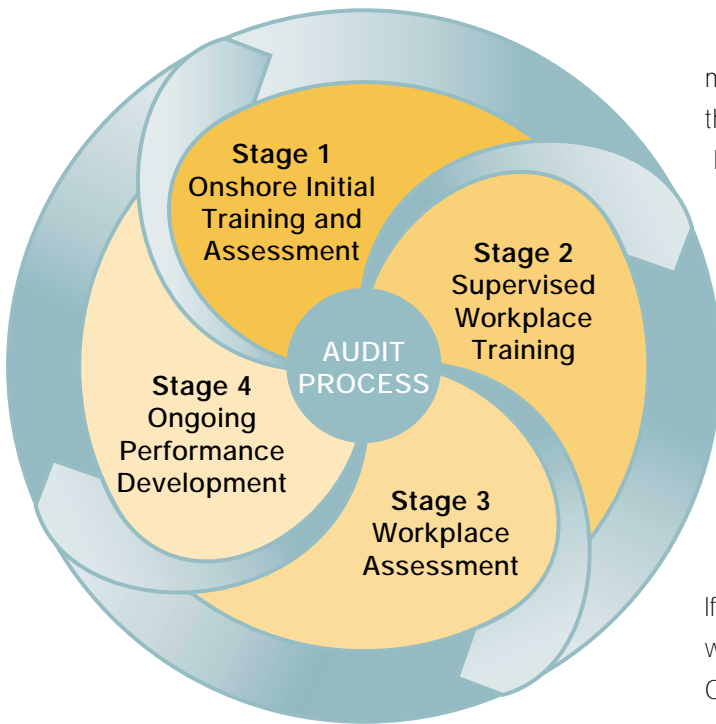
The chart on page 10 identifies the categories of personnel who undertake lifting and mechanical handling operations and the suggested training and competence assessment for these groups of personnel.

There are a number of training courses available, some of which are based upon and meet industry occupational standards developed by training standards organisations such as Cogent.





training and competency



Four Key Stages in Achieving Competency

The first stage of all training comprises initial training and assessment. This is normally carried out at an onshore training establishment – in the chart shown on page 10 this is identified as Stage 1. At the completion of Stage 1, the level of competency is deemed sufficient for that person to conduct lifting operations under the direct supervision of a competent person as part of their Stage 2 training.

Stage 2 is supervised training and the practical application of the learning obtained in Stage 1.

Stage 3 is the workplace assessment of competency with Stage 4 as the ongoing performance development.

In order to conduct safe lifting operations to today's high standards, it is important that employers have a system in operation which permits personnel to progress through the stages to become competent to undertake lifting operations and to maintain this competence. It is recognised that lifting and

mechanical handling competencies will differ across the industry. For example, lifting operations carried out by drilling contractors may involve different skills from those carried out by construction or marine contractors.

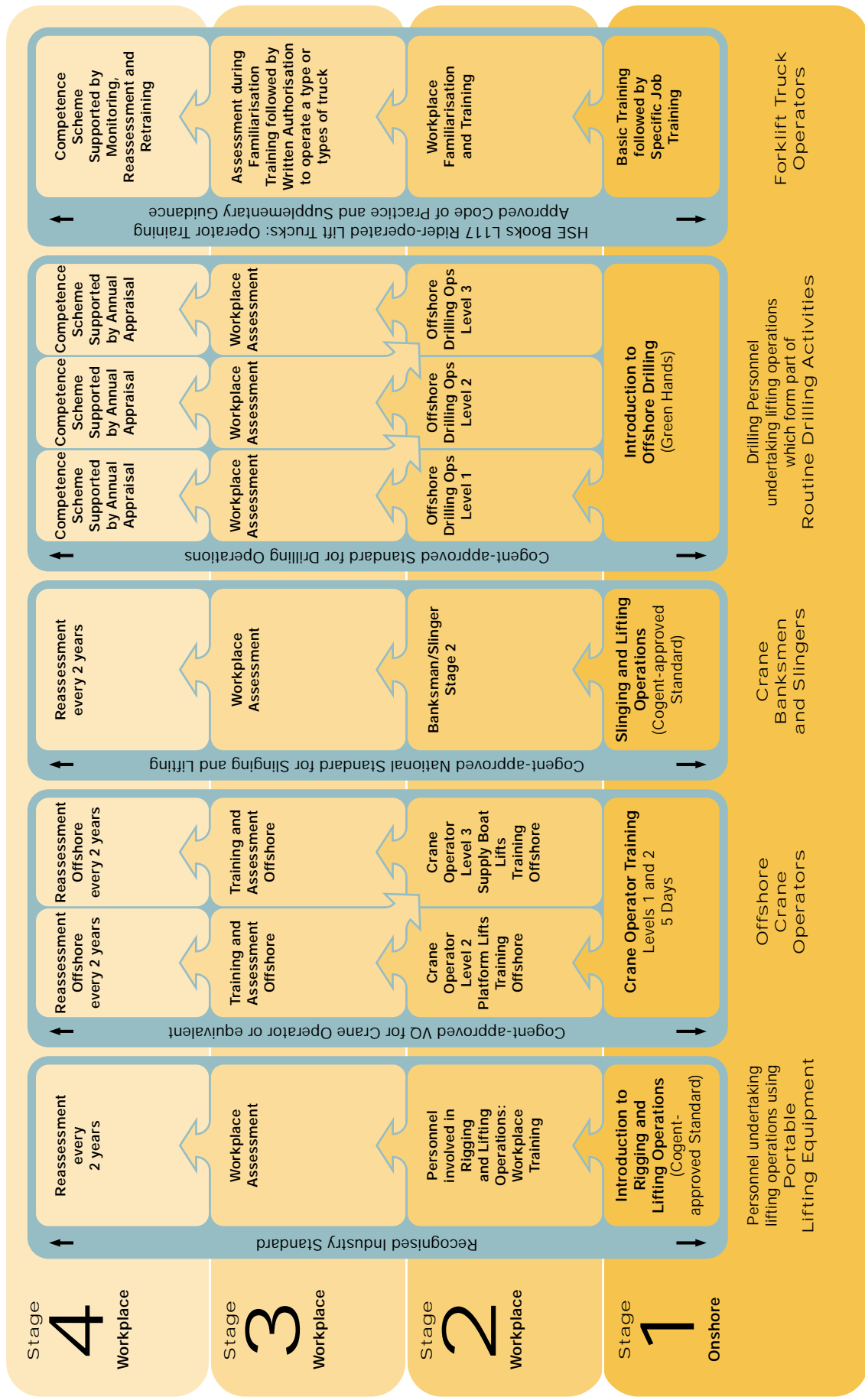
In the case of non-core personnel employed on short-term contracts, employers must have a system in operation to validate the competency of these personnel and, if necessary, update and refresh the skills and knowledge of such personnel.

If drilling personnel are performing lifting operations which are not covered by the Offshore Drilling Operations Standards then additional competencies will be necessary. This could be the case on Mobile Drilling Units where the services of personnel competent in rigging and lifting operations may not be available. In this case, the Introduction to Rigging and Lifting Operations Standard will be appropriate followed by workplace training and assessment.

There will also be occasions when personnel competent to undertake lifting and mechanical handling operations are required to use equipment such as overhead cranes and air tuggers. This equipment is generally not addressed in training courses. Therefore in such circumstances, personnel should make themselves familiar with the equipment manufacturers' instructions and relevant standards prior to use or maintenance.

The Training and Competency requirements identified in this document are meant to be rigorous but not limiting. Persons trained to other, equivalent standards may also be deemed competent.

guidance for the training and competence assessment of personnel undertaking lifting and mechanical handling operations



For the latest version of this diagram please refer to the Step Change in Safety website: www.stepchangeinsafety.net

training and competency

5.2

Personnel who Plan and Supervise Lifting Operations

The Competent Person eg Rigger, Rigging Supervisor, LOLER Focal Point, Crane Operator, Toolpusher, Barge Engineer or Maintenance Supervisor should normally have at least 3 years' operational experience of lifting operations before undertaking the role of the Competent Person. The formal training prior to the minimum of 3 years' operational experience should be equivalent to that defined in Stages 1 to 3. They must have experience in producing lift plans and should undertake further training in advanced rigging and lifting, where appropriate.



summary

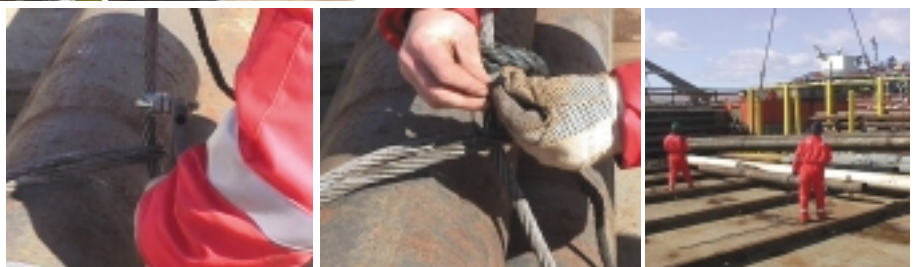
There are many examples of robust and fully operational systems for carrying out lifting and mechanical handling operations. Regardless of the system used, the important factors are:

- The lift is properly defined
- Responsible and Competent Personnel are appointed to plan the lift
- The competency of the personnel carrying out the work should be sufficient for the task to be undertaken
- The lift is planned to ensure that all hazards have been identified, risks managed and appropriate measures taken to control these risks
- To ensure that the lift is carried out with suitable equipment, in accordance with a well-defined plan
- To ensure that the conditions for the plan are foreseen and that if the conditions change, the hazards, risks and controls are reassessed
- To ensure that lessons learned are taken into account when planning future lifts.

These guidelines do not intend to prescribe any system, but simply offer guidance on elements of a robust system incorporating minimum standards. Users are encouraged to improve on these standards in reducing risks when carrying out lifting and mechanical handling operations.

appendices

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TOOLBOX TALK CHECKLIST



All personnel involved in the work activity must participate in the Toolbox Talk (TBT) and sign below as being present. The TBT objective is to communicate the Activity Task Assessment and capture any specific controls not already identified to the work party.

Work Location:	Work Activity:
Date:	Discipline:
Permit, W/O or Procedure No:	TRA, Lift Plan, COSHH, or Manual Handling No:

CHECKLIST/PROMPT (Tick where appropriate)

- | | | |
|---|---|--|
| <input type="checkbox"/> Type of operation to be executed | <input type="checkbox"/> Work equipment | <input type="checkbox"/> Hazardous substances used/present |
| <input type="checkbox"/> Methods/procedures to be adopted | <input type="checkbox"/> Production/operational constraints | <input type="checkbox"/> Isolation requirements |
| <input type="checkbox"/> PTW precautions/controls | <input type="checkbox"/> Human factor assessment | <input type="checkbox"/> Conflicting activities |
| <input type="checkbox"/> Safety equipment location | <input type="checkbox"/> Crane/lifting requirements | <input type="checkbox"/> Environmental considerations |
| <input type="checkbox"/> Individual responsibilities for controls | <input type="checkbox"/> Confined space entry requirements | <input type="checkbox"/> Waste management |
| <input type="checkbox"/> Access/egress | <input type="checkbox"/> Manual handling | <input type="checkbox"/> Working environmental conditions |
| <input type="checkbox"/> Tests/monitoring | <input type="checkbox"/> Potential hazards | |

OPERATIONS SUMMARY

EQUIPMENT SUMMARY

SAFETY TOPICS DISCUSSED

ATTENDEES

Print Name	Signature	Print Name	Signature

TALK CONDUCTED BY

Planned By	Print Name:	Signature:	Date:	<input type="checkbox"/> Procedures <input type="checkbox"/> Risk Assessment <input type="checkbox"/> Other Documents
Talk Carried Out By	Print Name:	Signature:	Date:	

Step Change in Safety • Lifting and Mechanical Handling Guidelines • This form is available on the Step Change in Safety Website: www.stepchangeinsafety.net

PROMPT CARD - EXAMPLE

Part 1 Planning the Lift
(Competent Person)

- Is there a new or existing lift plan which is adequate for the lifting operation?
- Has a risk assessment been undertaken and the risks managed through the control measures within the lift plan?
- Is the equipment selected fit for purpose and identified in the lift plan?
- Do the personnel selected to undertake this lifting operation have the correct level of competence?
- Have the steps of the lift plan been communicated and understood by all involved?
- What could go wrong?
...has this information been fed into the lift plan and Task Risk Assessment?
- Have all potentially affected parties been informed of the lifting activities?

Part 2 Job Site Review
(Everyone involved in the lift)

- Is there a lift plan and risk assessment for the lifting operation and do they fully cover the actual task to be undertaken?
- If this is a generic lift plan for a routine lifting operation, are there any changes for this lifting operation compared to the generic plan, eg change in weight, change in centre of gravity, wind, lighting?
- Have you the authority/PTW required to proceed with the lift?
- Have you assessed the path the load will take?
- Have you prepared the load setdown area?
- Have you assessed tagline/hold-back requirements?
- Have all seafastenings/hold-downs been released?
- Has the lifting equipment been checked? Is it fit/appropriate for use?
- Is adequate supervision present and who will be in control of the lifting operation?
- On vessels, have you considered stability, dynamics and vessel motion?
- Have all personnel involved been fully briefed?
- Are communications adequate?
- Has the site been checked for potential dropped objects?
- Have the environmental conditions been considered, ie wind, rain etc?
- Are the steps of the lift plan and individual responsibilities clearly understood by all those affected and/or involved?
- Are personnel in the vicinity aware of the lift?

Step Change in Safety - Lifting and Mechanical Handling Guidelines - This card is available on the Step Change in Safety Website: www.stepchangein.com

Additional useful guidance:



UKOOA
'Guidelines for the Safe Packing and Handling of Cargo to and from Offshore Locations'



Step Change in Safety
'best practice guide to handling tubulars'



Step Change in Safety
'best practice guide to manriding safety'



www.dropsworkpack.com
'Guidance on eliminating the incidence of dropped objects from within drilling deck structures'

RISK MATRIX – EXAMPLE

The following is an example of a typical Risk Matrix.
Refer to the Step Change in Safety TRA Guide for further information.

		Hazard Severity				
		Negligible Negligible injury, no absence from work	Slight Minor injury requiring first aid treatment	Moderate Injury leading to a lost time accident	High Involving a single death or serious injury	Very High Multiple deaths
Likelihood of Occurrence	Very Unlikely A freak combination of factors would be required for an incident to result	LOW	LOW	LOW	LOW	LOW
	Unlikely A rare combination of factors would be required for an incident to result	LOW	LOW	LOW	MEDIUM	MEDIUM
	Possible Could happen when additional factors are present but otherwise unlikely to occur	LOW	LOW	MEDIUM	MEDIUM	HIGH
	Likely Not certain to happen but an additional factor may result in an accident	LOW	MEDIUM	MEDIUM	HIGH	HIGH
	Very Likely Almost inevitable that an incident would result	MEDIUM	MEDIUM	HIGH	HIGH	HIGH

LOW RISK

May be acceptable but review task to see if risk can be reduced further.

MEDIUM RISK

Task should only proceed with appropriate management authorisation after consultation with specialist personnel and assessment team. Where possible, the task should be redefined to take account of the hazards involved or the risk should be reduced further prior to task commencement.

HIGH RISK

Task must not proceed. It should be redefined or further control measures put in place to reduce risk. The controls should be reassessed for adequacy prior to task commencement.

By redefining the hazard severity, risk evaluation matrices can be used to assess health, production and environmental risk as well as the risk of accident and injury. An example of these definitions may be:

Negligible Negligible injury or health implications, no absence from work. Negligible loss of function/production with no damage to equipment or the environment.

Slight Minor injury requiring first aid treatment or headache, nausea, dizziness, mild rashes. Damage to equipment requiring minor remedial repair, loss of production or impact on the environment.

Moderate Event leading to a lost time incident or persistent dermatitis, acne or asthma. Localised damage to equipment requiring extensive repair, significant loss of function/production or moderate pollution incurring some restitution costs.

High Involving a single death or severe injury, poisoning, sensitisation or dangerous infection. Damage to equipment resulting in production shutdown and significant production loss. Severe pollution with short-term localised implications incurring significant restitution costs.

Very High Multiple deaths, lung diseases, permanent debility or fatality. Major pollution with long-term implication and very high restitution costs.

KEY TERMS AND DEFINITIONS

Assessment	Process of judging competency against prescribed standards.	Lift Plan	A written document which will include details of how the lifting operation should be undertaken, the lifting equipment and lifting accessories to be used, how the equipment and accessories should be rigged up and the control measures in place to manage the risks identified in the Task Risk Assessment.
Assessor	Person who makes a judgement of competency against prescribed standards.	LOLER	Lifting Operations and Lifting Equipment Regulations.
Banksman	A Competent Person positioned so that he has an unrestricted view of the load and the Crane Operator, to give load manoeuvring instructions to the Crane Operator via hand signals or radio.	PUWER	Provision and Use of Work Equipment Regulations.
Check	A visual and functional assessment of lifting equipment and lifting accessories (not a test) prior to use.	Signaller	Person responsible for relaying a crane movement signal to the Crane Operator. <i>Normally termed the Banksman</i> Note: See also Banksman.
Colour Code	A method of marking equipment to give a visual indication of its certification status.	Sling	Wire ropes, chains, synthetic web and metal mesh made into forms, with or without fittings, for handling loads.
Cogent (OPITO)	Sector Skills Council for the Oil and Gas Extraction industry.	Slinger/ Load Handler	The person responsible for the attaching, detaching and securing of the loads to the lifting equipment. Also responsible for the selection and the use of lifting gear/accessories in accordance with the lift plan. The Slinger or Load Handler signals to the Banksman that the lifting gear/accessories are correctly attached and the load is ready for lifting.
Factor of Safety	The ratio of the load that would cause the failure of an item of lifting equipment to the maximum load that can be imposed upon it in service ie SWL. (This is to allow for detrimental criteria such as wear and tear, dynamic loadings etc.)	Task Risk Assessment	A system for the identification of the hazards associated with the task, assessing the risks and identifying the controls/precautions required to mitigate those risks.
Fit-for-purpose	Equipment free from defect and used only in the manner for which it was designed.	Thorough Examination	An examination carried out by a Competent Person to arrive at a reliable conclusion as to the condition and safety of the equipment. The Competent Person will determine the extent of the thorough examination – this may involve dismantling and testing.
Inspection	A visual check and, if necessary, a function check of the lifting equipment by a Competent Person at intervals between the 'thorough examinations'. In determining the suitability and scope of the inspection, reference should be made to information such as manufacturers' instructions and relevant standards.	Toolbox Meeting Toolbox Talk (TBT)	A discussion held between all members of a lifting operation prior to commencement of work in order to agree on all aspects of the work and the sequential steps to be taken to complete the work.
Lifting Equipment	Work equipment (machinery, appliance, apparatus or tool) for lifting or lowering loads, including the attachments used for anchoring, fixing or supporting it. For example, cranes, forklift trucks, chain hoists, lever hoists and winches.	Training	A programme drawn up to teach a person the necessary skills and knowledge to fulfil a function/job.
Lifting Gear/ Accessories	Equipment used for attaching the load to the lifting machinery, eg slings, shackles, eyebolts etc.		
Lifting Operation	An operation concerned with the lifting or lowering of a load.		



the lifting and mechanical handling work group

Acknowledgements

Step Change in Safety would like to thank several individuals from a wide range of companies and organisations who gave resources and time to develop these guidelines.

Particular acknowledgement for valuable contribution is given to the members of the core team whose companies and organisations are listed below.

AMEC

Grampian Test & Certification

Halliburton

HSE (UK Health and Safety Executive)

IADC (North Sea Chapter)

IMCA

Schlumberger

Sigma 3

Sparrows Offshore Services Ltd

Step Change in Safety (ESR Network)

Subsea 7

Transocean

UKOOA

Wood Group Engineering (North Sea) Ltd



For further information on Lifting and Mechanical Handling good practices and electronic versions of these Guidelines please visit the Step Change in Safety website: www.stepchangeinsafety.net



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For all the most recent information and resources please visit:
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STEP CHANGE IN SAFETY

