

Site Standing Order Number 301

Working at Height

Revision record held at [300 Series Revision Record](#)

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1 OBJECTIVES

This Site Standing Order (SSO) details the standards for working at height on Hull Site. The requirements defined within this SSO are to ensure compliance with the Working at Height Regulations (WAHR) 2005.

The Working at Height Regulations are based on a hierarchy whereby work at height should be avoided so far as reasonably practicable; if work at height must proceed the duty holder will so far as reasonably practicable prevent anyone falling a distance liable to cause personal injury.

Work carried out at height will when necessary be carried out under the control of a 'B' Type Permit/Pass, the use of which is described in the *SSO 205 – 'B' Type Pass/Permit Controlled Work*.

1.1 Definitions

Work at height – work in any place at or below ground level or means of obtaining access to or egress from such place while at work, except by staircase in a permanent workplace where a person could fall a distance liable to cause personal injury.

Duty Holder – any person who has the authority to authorise working at height activities. Generally but not limited to the Permit Signatory.

Working platform – any platform used as a place of work or as a means of access to or egress from a place of work: including any scaffold, cradle, mobile platform, trestle, gangway, gantry and stairway, does not include a building or other permanent structure.

Fragile surfaces – any surface which would be liable to fail if any reasonably foreseeable load were applied to it.

Collective fall protection systems - guardrails, nets, air bags, etc.

Personal fall protection systems - work restraint, fall arrest, rescue system or rope access and positioning techniques.

2 ORGANISING

2.1 Control

The duty holder will be responsible for controlling all activities relating to working at height. The work must be properly planned, appropriately supervised and carried out in a safe manner. When necessary the work will be carried out under the control of a 'B' Type Permit/Pass to Work and associated Risk Assessment/Method Statement. As such formal responsibility for these activities will rest with the *'B' Type Permit Signatory* and *'B' Type Permit Acceptor*, as with any other 'B' Type PTW controlled activity. The duty holder must adopt the principles defined in the hierarchy of control (Section 3) when planning any work at height.

Where working at height cannot be avoided, the work at height should be performed from a safe place of work. Any work equipment or PPE required to conduct working at height activities must only be used, inspected and maintained by a competent person.

2.2 Communication

The Permit Signatory and/or Permit Acceptor must ensure that all involved with working at height are fully conversant with all elements of the PTW and associated Risk Assessment/Method Statement, and where applicable, the contents of specific sections of this SSO.

2.3 Competence

All work at height must be organised, planned, supervised and conducted by a competent person. Each Appendix within this SSO defines the competences associated with the particular activity.

2.4 Co-operation

It is essential that those involved in working at height on Hull Site work together to ensure that the most appropriate method and equipment are selected to conduct the work in a safe manner.

3 RULES AND PERFORMANCE STANDARDS

3.1 Hierarchy of control

When a duty holder is planning any work they must consider all working at height activities. The following principles must be adopted during the planning phase:

- Avoid work at height (if you don't have to go up there then don't).
- Prevent falls (work safely if it is possible to do so from an existing place of work at height: adopt the most suitable equipment for work at height): and then;
- Mitigate the consequences of a fall (have measures in place to arrest a fall should it occur).

At all stages give collective protective measures precedence over personal protective measures.

The guiding principle behind the WAHR is that work at height, if it is necessary, should be performed from a safe place of work.

3.2 Risk Assessment and Planning

In order to be practical the new WAHR adopt a risk based approach to ensure that the measures taken to comply with law are proportionate to the risk involved. Under the regulations the Duty Holder is required to:

1. Identify and assess the hazards associated with the task before work begins
2. Follow the Hierarchy of Control for safe work at height (Avoid-Prevent-Mitigate)
3. Make use of the most appropriate work equipment
4. Plan and organise the work properly taking account of weather conditions, possibility of emergencies, etc
5. Ensure that those carrying out the work at height are competent
6. Manage the risks from working on or near fragile surfaces and from falling objects
7. Inspect and maintain the work equipment before and during its use

8. Inspect the work area before and during the work

3.3 Fragile surfaces

We need to ensure that any surface from which work at height is carried out is stable and of sufficient strength to support all foreseeable loads.

Before commencing any work at height all fragile surfaces must be identified and the area assessed. Warning notices should be affixed at the approach to the place where the fragile surface is situated, were this is not reasonably practicable then persons must be made aware by other means.

Steps should be taken to prevent persons from working on or near a fragile surface. Where this is not possible then suitable platforms, coverings, guard rails or other means of protection must be used to support any foreseeable loading. Foreseeable loading includes people standing on, equipment / materials being stored on, people or objects falling onto a fragile surface.

If after implementing the above controls there still remains a risk of a person or objects falling then controls must be implemented to minimise the distance and consequence of the fall.

3.4 Rescue plan

When planning any work at height the Method Statement must identify how personnel will be rescued in the event of a fall or other emergency. Work at height shall not commence until this plan is in place.

For non routine working at height activities the rescue plan must be approved by the HSSE department or nominee. The personnel carrying out the work must demonstrate to the HSSE department or nominee that they can conduct the rescue detailed in the Method Statement prior to commencing any work.

The Rescue Plan should identify all reasonably foreseeable events and emergency procedures must be established to deal with all such situations.

The rescue plan should consider:-

The location of the workplace

Any special risks presented by the workplace

The height of any rescue

Where the rescue will be conducted from

The number of personnel who may need to be rescued

Permutations of the team's work positions

How personnel will be rescued from any fall protection equipment used (air bags, netting, safety harness, etc)

Potential risks to the rescuers

Number of rescuers required

Availability of rescue equipment

Time for the rescue to be conducted

Access for the emergency services

A Shift Fire Officer should be consulted where the rescue is complex i.e. from a confined space, from a non permanent working platform, where multiple personnel may require rescue, work is a remote location etc.

Suspension Trauma

Where casualties are suspended in safety harnesses it is paramount that the individual is rescued as quickly as possible to reduce the potential of suspension trauma. Suspension trauma can occur in relatively innocuous locations, but with careful planning and selection of appropriate rescue equipment the risks to casualties can be significantly reduced. Suspension trauma is the affect on a suspended casualty that can lead to unconsciousness or death. This is due in part to a decrease in the effective circulation of oxygenated blood to the body's extremities, either due to injury, shock or compression caused by a harness. The time (typically 15-20 mins) it takes for this condition to effect a person can vary greatly, so having an effective rescue plan and speedy implementation is essential.

The rescue of any person after a fall involving a fall protection system should only be conducted by suitably trained personnel i.e. Site Emergency Response Team or External Emergency Services.

3.5 Working at Height – Lone Working

In view of the potential problems associated with working at height and the use of fall arrest systems Lone Working should generally be discouraged.

Where Lone Working at height is required:-

The lone worker must be medically fit and suitable to work alone.

and

The appropriate level of supervision (i.e. standby man) must be provided or adequate controls must be implemented to ensure that the appropriate assistance can be summoned in the event of an emergency.

The level of supervision will be dependent upon the risks involved. Regular contact must be established or automatic warning devices which are automatically operated should be used to raise the alarm in the event of an emergency.

3.6 Performance Standards for Specific Working at Height Activities.

The performance standards governing specific activities related to work at height are contained within the following Appendices:

Appendix 1	Scaffolding
Appendix 2	Fall Arrestors
Appendix 3	Ladders/Step Ladders
Appendix 4	Work on Roofs
Appendix 5	Basket or Skip Suspended From a Crane Hook
Appendix 6	Work Over or Near Water/Mud/Sludge
Appendix 7	Mobile Elevated Working Platform (MEWP)
Appendix 8	Access to Tanker Tops

- Appendix 9** Tools/Equipment Falling From Height
- Appendix 10** Painter's Cradles and Boatswain's Chairs
- Appendix 11** Lifting or Replacing Gratings, Walkways or Other Similar Permanent Means of Access at Height
- Appendix 12** The Removal or Reinstatement of Plant and Equipment at Height
- Appendix 13** The Use of Rope Access Equipment on Hull Site
- Appendix 13a** Rope Access Commencement Check List
- Appendix 14** Storage Tank Erection (Staging)

4 MEASURING PERFORMANCE

Performance measurement standards for the activities described above are contained within the body of each individual Appendix.

5 REVIEWING AND AUDITING PERFORMANCE

Any non conformance identified during working at height activities will be raised as a site incident and entered into Tracticon. Any incidents will be reviewed by the HSSE department and the most appropriate means of communication will be used to address the issues identified.

Duty holders, Permit Signatories and individuals will monitor their working at height activities on a daily basis and report any deficiencies or non conformances by the most appropriate means.

APPENDIX 1 – SCAFFOLDING

1 SCOPE

It is a statutory duty to protect persons from any fall likely to cause injury and also to consider scaffolding as the primary way of gaining access to a temporary work place at height. Other methods should only be used when this is deemed not to be practicable following a risk assessment.

All scaffolding equipment must comply with BS1139 (Metal scaffolding), BS5973 (Scaffold Structures), BS2482 (Scaffold Boards) and BS1129 (Access Ladders – wood) and BS2037 (Access Ladders – steel).

2 DEFINITIONS

Scaffolding

Means all tube and fitting scaffolding and all types of self-erect and system scaffolding.

Special Purpose Scaffold

This is any scaffold other than Self Erect, System scaffolding, Tower scaffold or an Independent scaffold that does not require sheeting.

Competent Persons

Those qualified and experienced in the erection, dismantling, altering and inspecting of scaffolding. In the case of tube and fitting scaffolding, the Inspectors must be appointed in writing by the HSSE Department.

3 DUTIES

Requester

A Risk Assessment must be carried out prior to the erection of a scaffold and should involve the person erecting the scaffolding and those controlling the work area.

Scaffolding Supervisor

Before the erection of any scaffold the scaffolding supervisor must specify to the scaffolder what type of scaffold and what type access / egress system will be used. The scaffold supervisor will use the hierarchy defined in Section 7 to determine the safest means of access.

Scaffolder

The person erecting/dismantling the scaffold must carry out a Pre Task Review Assessment which considers the scope and location of the work, access and egress to and from the ladder and working platform, the position of the working platform, access/egress to/from the working platform and ensure that access to plant, equipment or emergency facilities are not impeded.

Inspector

Prior to issuing or updating a Scafftag, the inspector must confirm the scaffold complies with all current standards, has a high standard of housekeeping and does not cause undue obstruction to persons, equipment or plant in the area.

The User

Person(s) using a scaffold must complete a job specific Scaffolding Risk Assessment, prior to commencing work. The scaffold number and date the user inspected it must be recorded in their Pre Task Review Book.

4 ERECTION/DISMANTLING OF SCAFFOLDING

"Competent Persons" erecting or dismantling scaffolds must always work from a safe platform, which is a minimum of five boards wide (system scaffolding minimum 3 pans wide) and have a guide rail fitted. Where this is not possible a fall arrestor must be used (Appendix 2). Ladder access must be fitted and used as the scaffold is built. Scaffolders must be clipped on when lifting or lowering equipment, unless a double guard rail platform is available.

The maximum length of a scaffold tube permitted on Hull site will be 4.9m (16 feet), longer tubes will only be used following a dispensation from the HSSE department

Access to and from the worksite must be assessed. Equipment must be safely transported to and from the workplace and stored in a safe manner.

Precautions must be taken to prevent the use of walkways and access routes above which scaffolding is being erected or dismantled. Scaffolding that could impede access to and from plant must be clearly highlighted with high visibility red and white tube cover.

All scaffolding used in the erection or removed during the dismantling process must be suitably stored and suitably secured when it is lifted, lowered or transported. Any boards used to create a temporary working platform during erection or dismantling must be secured by an approved method.

5 HOUSEKEEPING

A high standard of housekeeping must be maintained at all times. An inspection of the work site by the Scaffolders must be carried out to ensure surplus equipment is removed following erection/dismantling operations. The inspector will confirm this prior to updating the Scafftag. Users of working platforms must take precautions during the work to prevent material from falling (the use of bolt boxes, orange mesh between double guard-rails etc.) and ensure all debris/engineering material is cleared on completion of the work.

6 ACCESS LADDERS

The positioning of the access ladder to any scaffold must be a primary consideration. The ladder should:

- Be sited on level stable ground.
- Be clear of items, which could impede access.
- Be angled at 1 metre out for every 4 metre high.
- Extend 1.05 metres above the working platform (if this is not possible then other measures to ensure a secure handhold should be provided).
- Be at least two metres from a structure edge unless additional fall protection is used, (e.g. extra edge protection, guardrails, inertia reels & safety harnesses, etc).

- Be inspected prior to use.
- Be securely lashed, footed or secured by other attachments.
- Have an intermediate support if rising above 4 metres and a landing platform or rest area should be provided for ladders rising a distance of 9 metres or more.
- External ladders are allowed to the first and second lift levels only to a maximum staging height of 15'. All scaffold ladders must be internal to the structure beyond 15' in height.
- Ladder runs should be reduced to the shortest distance by introducing ladder towers or by introducing additional landing platforms.

The standard at ladder access points are detailed in Section 7 below.

7 ACCESS TO AND IN SCAFFOLDS

So far as is reasonably practicable the ladder access to a working platform should not be impeded. The ladder access point should be protected if there is a risk of persons approaching the ladder opening by mistake. This can be achieved by applying the following hierarchy of access.

The hierarchy of access (1-5) should be followed when selecting access and egress standards for any scaffolding.

The use of continuous guardrails at ladder access points is prohibited.

7.1 Staircases (Fig 1).

This may be a proprietary scaffold stair tower or a simple construction made from tube and fittings with a proprietary step or steps made from scaffold boards. The stair treads must be covered with appropriate non-slip paint or other non slip material. Any non slip materials used on the stair treads should be inspected as part of the scaffolding weekly inspection.

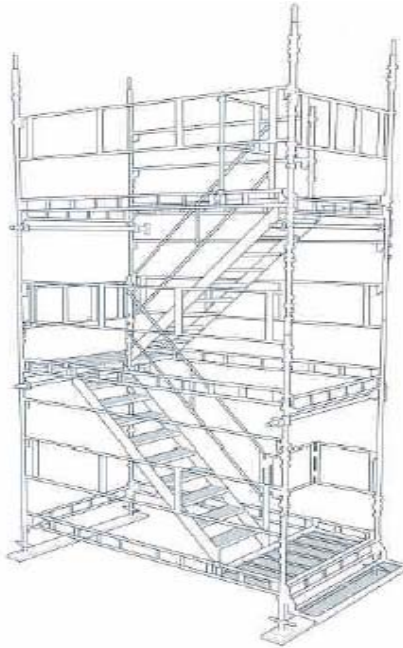


Fig 1

Figure 1
Proprietary system scaffold stair tower

For areas where there are multiple, frequent users of a scaffold for access purposes only (i.e. not leading to a working platform, but built over an inherent obstruction to improve access) and space is available, then stairs are preferred. However, it is recognised that most scaffolding is built to access a working platform in restricted access areas with few users. In these circumstances it is acceptable to use the following hierarchy of ladder access standards.

7.2 Ladder access bays (Fig 2).

Ladder access bays may require the use of single or multiple ladders. Where multiple ladders are used they should be installed in a parallel rather than a zig-zag pattern.



Fig 2

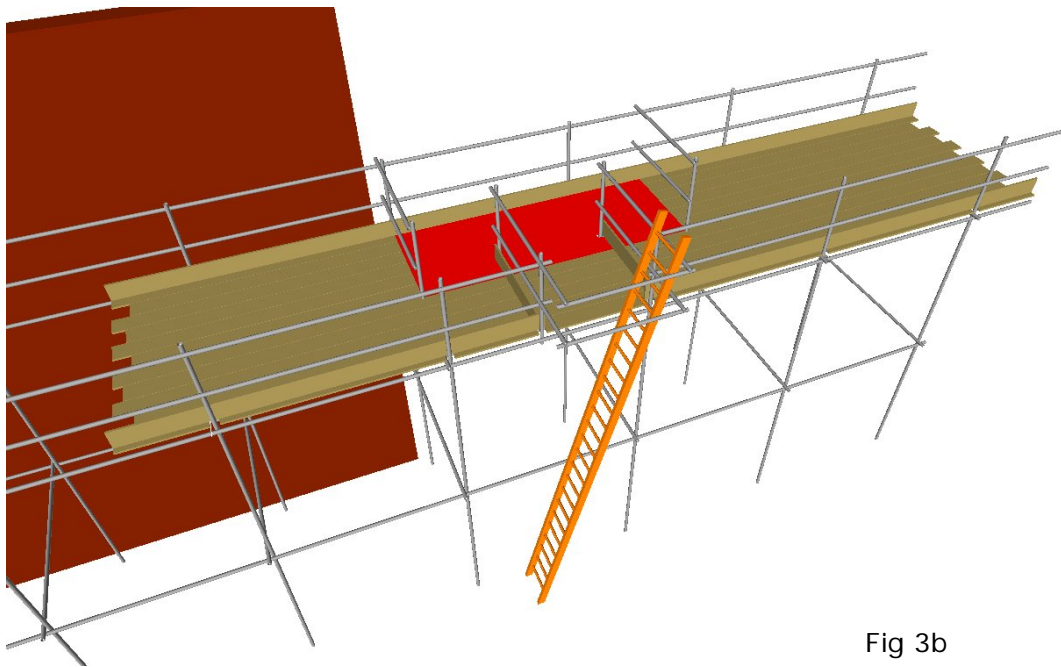
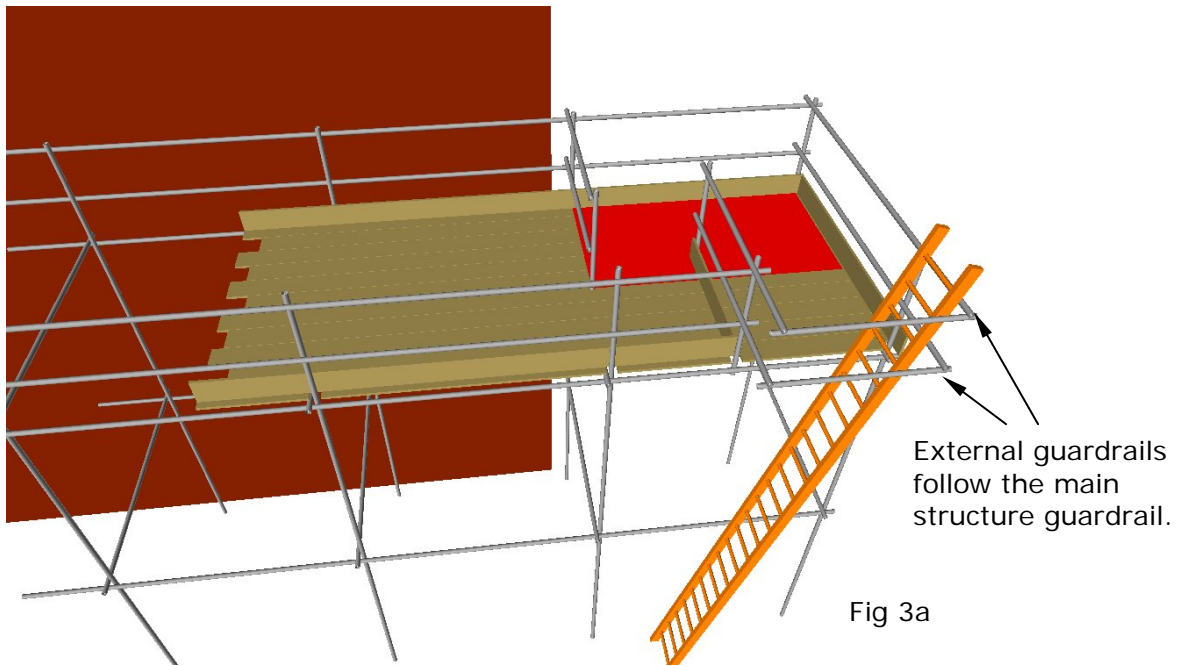
External ladders will be restricted to the first and second lift levels only.

7.3 Ladder Access with chicane system and grab rails (Figs 3 & 4)

The chicane system is designed to segregate the Landing Platform from the Working Platform. The Landing Platform area should not be impeded.

On the Chicane System of scaffold if it is necessary for work to be conducted in the RED Shaded area then additional fall prevention controls will need to be implemented (i.e. Safety harness with a restraint lanyard).

External Ladder Access with chicane system and external grab rails (Fig 3a & 3b).



Internal ladder with chicane system (Fig 4a & 4b).

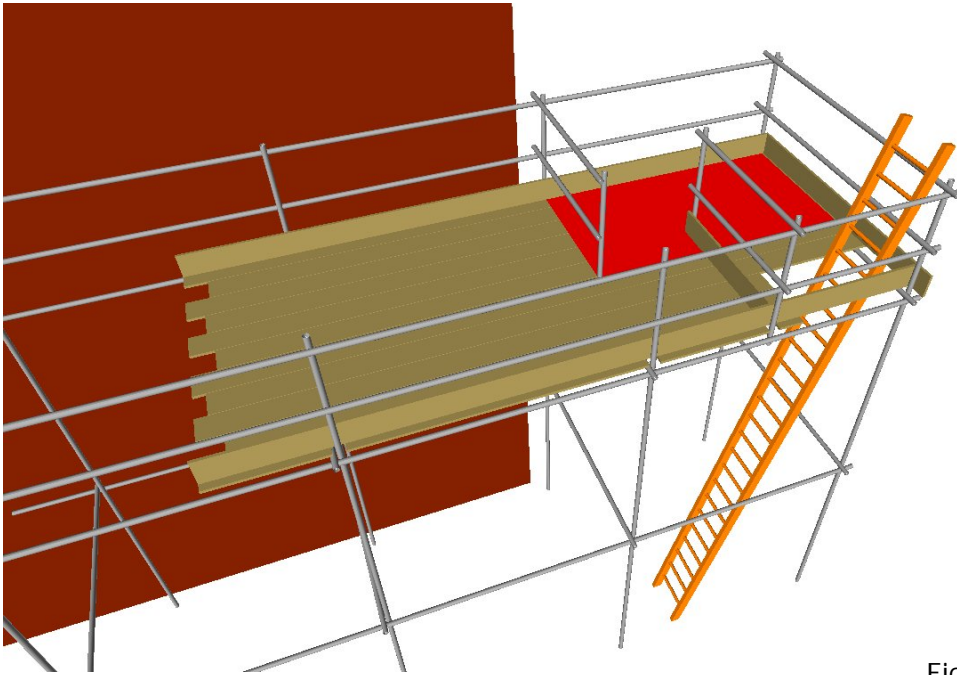


Fig 4a

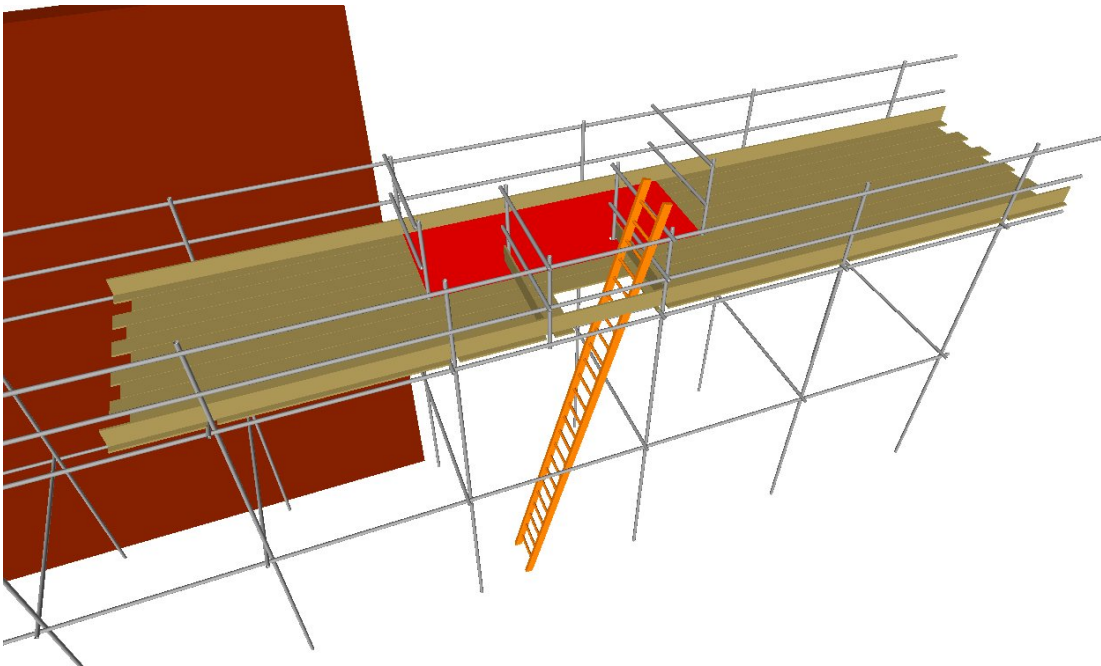


Fig 4b

7.4 Ladder Access with gate and grab rails (Figs 5 & 6).

The Landing area adjacent to the gate should not be impeded. The gate should be free moving and free from obstruction. The gate must be inspected for free range of movement and self closing as part of the weekly scaffold inspection. Ideally, the hinge of the gate should be installed at the opposite side of the access route from the ladder, to ensure a clear passage from ladder to platform.

External Ladder with gate access and External grab rails (Figs 5a & 5b)

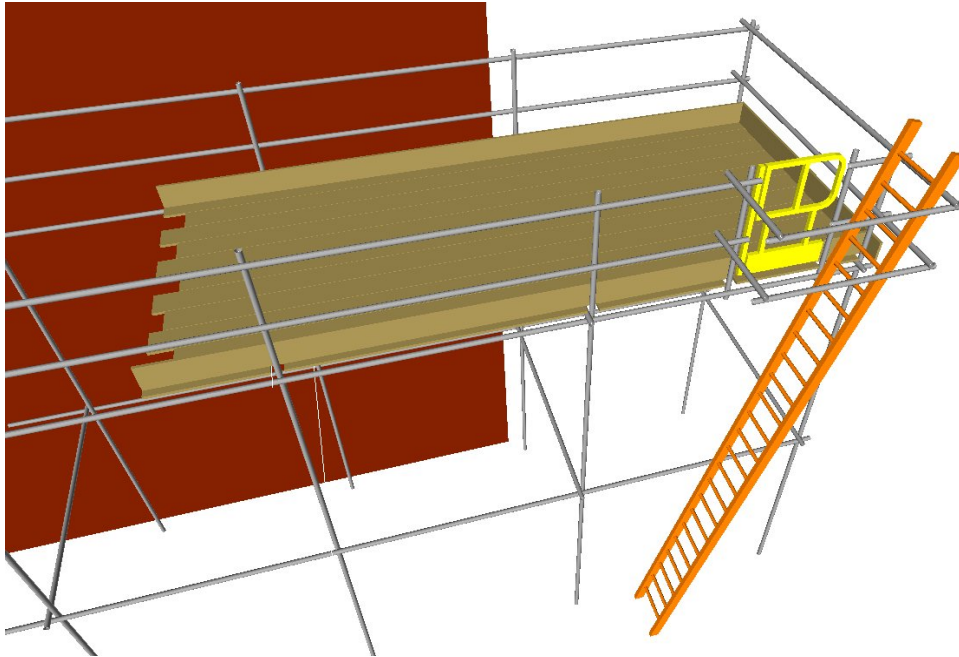


Fig 5a

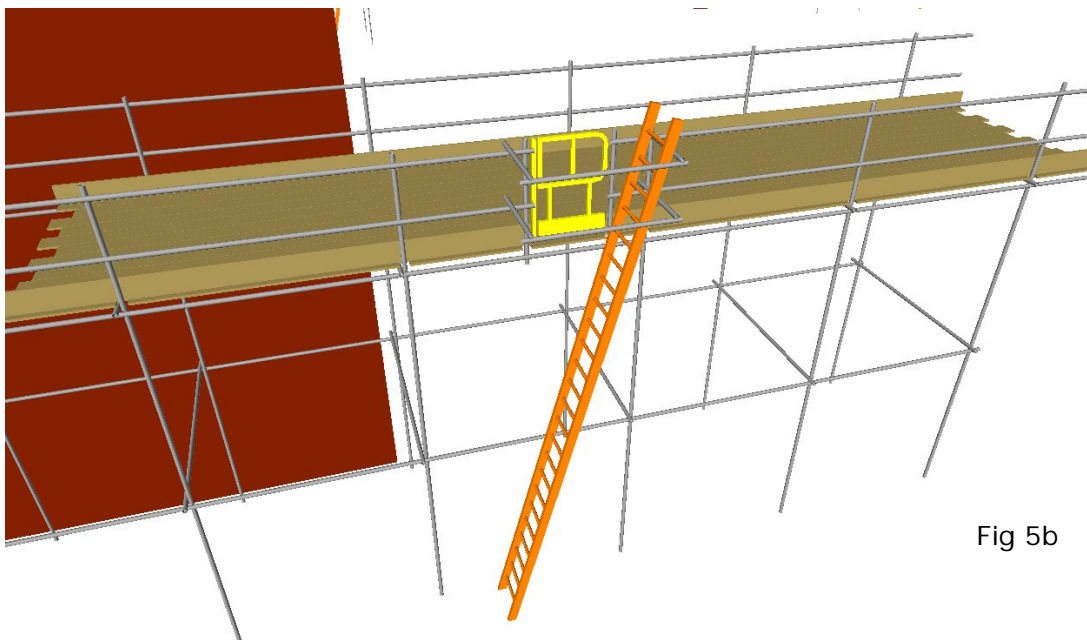


Fig 5b

Internal ladder with gate access (Fig 6)

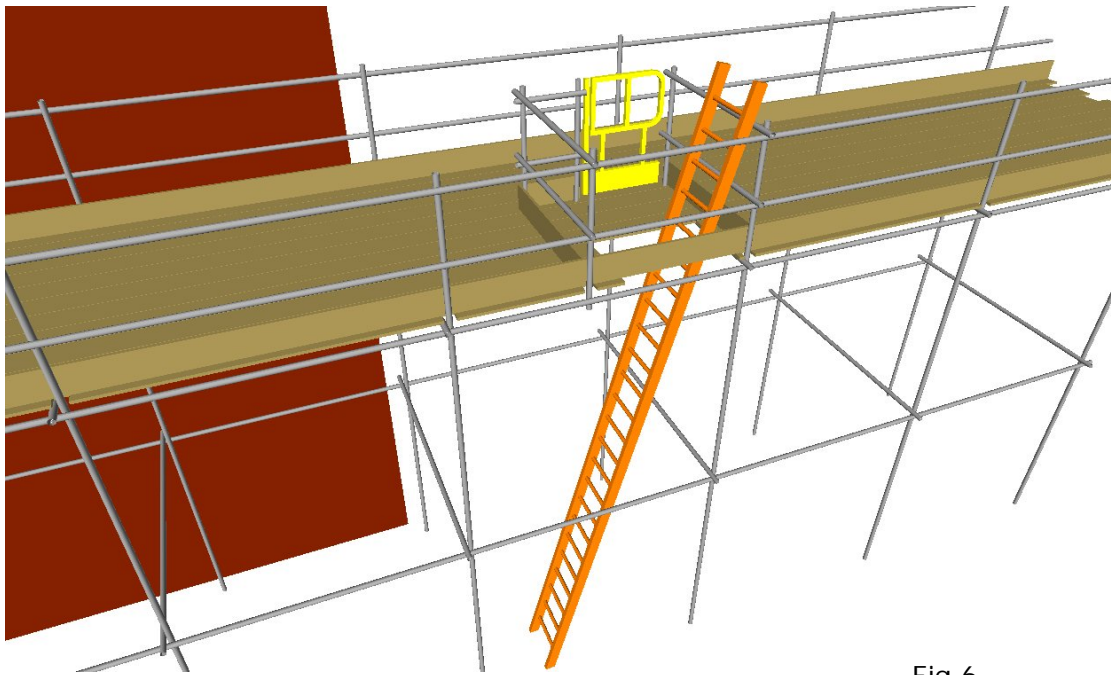


Fig 6

7.5 Trap-doors (Fig 7).

Trap doors can be used in exceptional circumstances, but facilities for securing the trap-door when in the open position must be made available. The trap-door should not pose any additional hazard to the user.

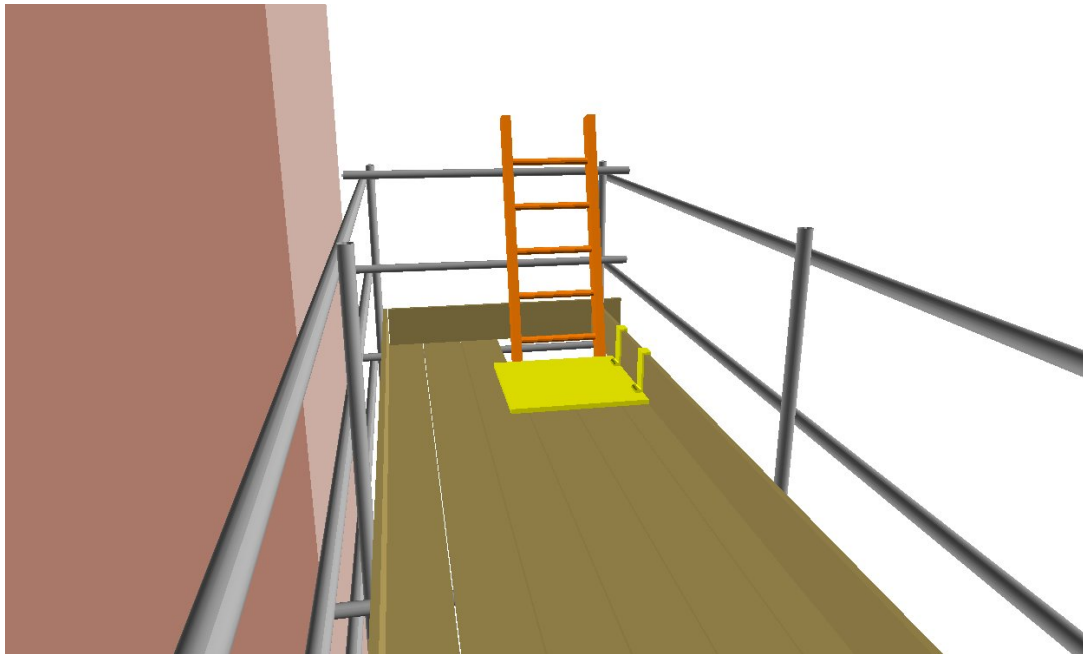


Fig 7

If for any reason the above standards cannot be achieved then a separate risk assessment must be completed by the scaffold requester. The Risk Assessment should fully assess the hazards associated with the access method and the use of the scaffold. This risk assessment must be endorsed by the site HSE Manager or nominee (HSE Advisor – Work Place Risk, Induction and Contractors).

If none of the above access methods are achievable, the scaffold should be tagged with a Prohibition Notice/Restricted Use Scaffoldtag. The additional controls and users names should be detailed on the back of the Scaffoldtag. Ref section 10 Inspection / Scaffoldtag

8 GUARD RAILS/EDGE PROTECTION

A guardrail, toe-board, barrier or other means of protection must be provided at any edge where a person or material is liable to fall.

The main guardrail (or other means of protection) must be at least 950 millimetres above the working platform. The maximum permitted gap between any guardrail and toe-board is 470 millimetres. Toe Boards on the working platform or on any access gate must be at least 150 millimetres high.

Where external ladders are used for access, grab rails should be installed to ensure the user has additional fall protection when accessing and exiting the structure.

9 WORKING PLATFORM

The working platform should be of sufficient dimensions to allow safe access to the work face and safe use of tools, equipment and materials. It should be free from gaps, which could give rise to injury to persons on the platform or cause injury/damage to persons, plant or equipment from falling objects.

Boards must be:

- Level and void of trip hazards (so far as reasonably practicable boards should not be overlapped)
- Secured in place to prevent movement (if nails are used, they must be removed when the platform is dismantled)
- Supported every 1.5 metres maximum (38mm board thickness/ BS 2482)
- Have a minimum overhang 50mm maximum 150mm
- Fitted with end bands or nail plates

Toe-boards must be provided at every edge where there is a risk of persons or material falling, including on access gates where used.

10 INSPECTION/SCAFFTAG

All scaffolds must be inspected prior to use, after any alteration, after exposure to adverse weather conditions, after any event that is likely to have affected its strength or stability or routinely every 7 days.

An appointed Competent Person must inspect the scaffolding prior to use and every seven days thereafter. The inspections must be recorded on the appropriate form and local Scaffoldtag. A Scaffoldtag will be displayed at every access point.

Prohibition Notice/Restricted Use Scafftag & Control

A Prohibition Notice/Restricted Use Scafftag must be attached to any Scaffold where it is not practical to provide a complete scaffold due to the removal of plant, equipment or the specific requirements of the task (e.g. insulation work around a column section, pipe, etc) or when the access standards detailed in Section 7 cannot be achieved. Those involved in the work must complete the Scaffold Risk Assessment in their Pre-Task Review and implement additional control measures.

The minimum standard for those working on a Prohibition Notice/Restricted Use scaffold will be to wear and use a harness with a double lanyard, when on the scaffold they must be clipped on at all times.

Where access ladders extend beyond 4 metres or the scaffold access point is impeded, inertia reels and safety harnesses should be used and worn when ascending and descending the ladder.

Only those persons authorised by the Scaffolding Inspector and named on the PROHIBITION NOTICE RESTRICTED USE Scafftag will be allowed to access / work from the scaffold.

Special Purpose Scaffolds

"Special Purpose Scaffold" will require a Scaffolding Plan (Method Statement or Engineering design) to be produced prior to construction by the company erecting the scaffold. Advice must be sought on the construction methods, scaffold loading and wind loading.

11 SELF ERECT SCAFFOLD

All Self-erect scaffolding must be erected and inspected by a Competent Person. A Competent Person will inspect the scaffold prior to use, after any alteration, after exposure to adverse weather conditions or after any event that is likely to have affected its strength or stability.

The inspections must be recorded on the Scafftag. A Scafftag will be displayed at every access point.

It should only be used for work of short duration, in the unlikely event it remains erected for longer than seven days it must be recorded on the appropriate form and will require a seven-day inspection.

Aluminium alloy self-erect scaffolding is not suitable for use in Zone 0 or 1 areas or where it is likely to be subjected to chemical attack.

12 MOBILE SCAFFOLDS

Mobile scaffolds must be prevented from moving whilst in use.

During the movement of a mobile scaffold the user should ensure that no one is on the scaffold, be aware of any over head obstructions, ensure all tools and equipment on the tower are removed or secured, and ensure that there are no depressions or holes in the ground which may cause the tower to stop suddenly or topple over causing injury or damage to equipment.

Mobile Scaffolds could be either Self-erect scaffolding or tube and fitting scaffolding and must be erected and inspected by a Competent Person. A Competent Person will inspect the scaffold prior to use, after any alteration, after

exposure to adverse weather conditions or after any event that is likely to have affected its strength or stability.

If the Mobile Scaffold remains erected for longer than seven days it must be recorded on the appropriate form and will require a seven-day inspection.

The inspections must be recorded on the form and on the Scafftag. A Scafftag will be displayed at every access point.

13 ACCESS TO K2 SCAFFOLDING (Fig 8)

K2 system scaffolding is routinely used on Hull site, but because of its modular construction, the access standard options are limited. Where K2 scaffolding is used the access standard will be as follows: -

1. Landing Platform with Gated Access.

A minimum landing platform area of 1m², which is independent of the working platform, will be provided. A gate will be installed between the landing platform and the working platform.

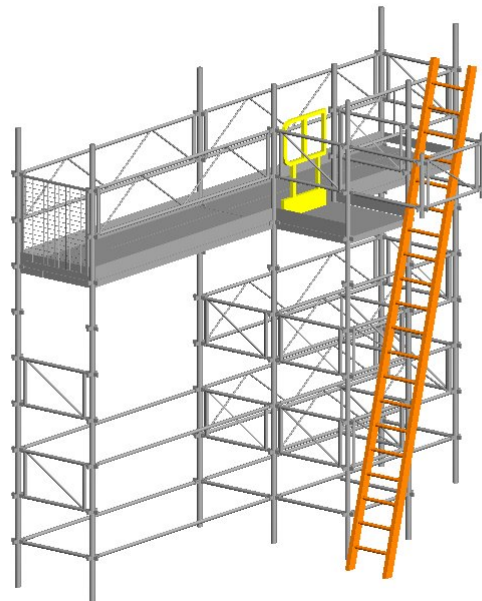


Fig 8

2. Gated Access directly on to the Working Platform.

When a separate landing platform cannot be installed, then an access gate will be fitted directly on the working platform (as shown in **Fig 5a & 5b** above for tube and fitting scaffolds). The gate should be fitted with a suitable toe board.

The Landing area adjacent to the gate should not be impeded. The gate should be free moving and free from obstruction. The gate must be inspected for free range of movement and self closing as part of the weekly scaffold inspection. Ideally, the hinge of the gate should be installed at the opposite side of the access route from the ladder, to ensure a clear passage from ladder to platform.

When access ladders extend beyond 4 metres internal access ladders will be used.

The use of a continuous guardrail at ladder access points is prohibited.

14 THE USE OF GIN WHEELS AND HAND LINES

14.1 Gin Wheels

The following standards must be applied to the use of Gin Wheels on site:

Location

Gin Wheel locations on permanent structures must be approved by a *Manufacturing Engineer* and SMS Scaffolding Supervisor. A register of approved locations must be held at the plant permit office. Where additional locations are required, approval must be gained by the above personnel, which will include a site inspection. The location must be chosen such that no snagging hazards will be present during lifting/lowering operations.

Manufacturing Engineer approval is not required for the use of Gin Wheels on temporary structures – for example during the construction or dismantling of a scaffolding tower. The SMS Scaffolding Supervisor must still ensure that there are no snagging hazards, as with a permanent structure.

Erection

Competent persons – namely Scaffolders – must erect all Gin Wheels on site. A retaining clip either side of the Gin Wheel is deemed adequate to prevent it from leaving the support structure

Gin Wheel arrangements must be tagged both at the support structure and on the tail rope to indicate applicability and availability for use. A Prohibition Restricted Use Scafftag will be attached to the Gin Wheel tail rope. The Scaffolding Supervisor will name authorised users on the attached Scafftag. Scaffolders by virtue of their competence will be automatically authorised to use any gin wheel.

Use

Gin Wheels must only be used by authorised persons named on the Prohibition Notice Restricted Use Scafftag.

It is the user's responsibility to ensure that all loads have been suitably secured before commencing any lifting / lowering operations.

A gin wheel may be used to lift/lower small light loads, Scaffold tubes and boards. Scaffold tubes and boards must be handled individually – not in pairs.

Scaffold tubes must be secured with a rolling hitch and half hitch. Scaffold boards must be secured using a timber hitch. A Scaffolding Supervisor must first verify the competence of anyone tying these knots.

Before making use of a Gin Wheel an assessment must be made as to whether the job requires a three-man team. This assessment will consider clearance from the support structure, snagging risk and weather conditions. If the risk assessment deems it necessary, the third man would be at ground level operating the tail rope to ensure that the load does not come into contact with any structure.

Irrespective of this the floor area below the Gin Wheel arrangement must always be barriered off before use.

14.2 Hand Lines

The following standards must be applied to the use of Hand Lines for lifting/lowering scaffolding and small light loads at Hull Site:

Hand Lines may be used for the raising and lowering of small loads such as properly secured bags of fittings. Hand Lines may be used for the raising/lowering of scaffold tubes and boards during erection and dismantling of lifts where it is impractical to make use of a Gin Wheel. In this case the following rules apply:

- Scaffold tubes and boards must be handled individually – not in pairs.
- The floor area below the Hand Line must be barriered off before use.
- Scaffold tubes must be secured with a rolling hitch and half hitch
- Scaffold boards must be secured using a timber hitch.
- A Scaffold Supervisor must first verify the competence of anyone tying these knots.

Small loads must be secured in an approved bag and/or attached to the Hand Line by a suitable knot.

It is the user's responsibility to ensure that all loads have been suitably secured / attached before commencing any lifting / lowering operations.

15 TRAFFIC ROUTES

Scaffolds within 1 metre of any traffic route must be made clearly visible by the use of yellow and black chevron boards or hi-visibility tube covers

Parked Scaffold trailers should be kept clear of traffic routes or access to emergency facilities. Access for the emergency services must be a primary consideration.

Trailers parked on site roads during periods of poor visibility should be provided with reflective traffic diamonds or lights front and rear.

16 MISUSE

Scaffolding equipment must only be used for its intended purpose. Alteration or adjustment other than by a Competent Person is forbidden.

17 DEFECT REPORT

Any defective scaffold must have its Scafftag removed and the fault must be reported immediately to the Scaffold Supervisor, Site Representative or Shift Site Manager. Defects must be recorded as Near Misses using e-Near Miss or Incidents entered into ***Traction***.

18 FURTHER ADVICE

Further advice on the use and standards of scaffolding can be obtained from the HSSE Department.

APPENDIX 2 – FALL ARRESTORS

1 PROVISION OF SAFE SYSTEM OF WORK

When work at height needs to be conducted safe access to/egress from a place of work and a safe working platform must always be the first consideration. This may mean completed scaffolding, lightweight self-erect scaffolding, mobile elevated working platform (MEWP), etc.

On occasions these may not be possible e.g. as in:-

- The removal of handrails to facilitate the installation/removal of plant and equipment
- Working near (within 2 meters) of an opening created by the removal of plant (before erecting barriers).
- Erecting or dismantling scaffolding
- Steel erecting
- Window cleaning
- Painting within confined pipe tracks

In situations such as these Safety Nets, Work Restraints, Work Position Techniques, Fall Arrestors must be considered to prevent falls or mitigate the consequences of the fall.

Scaffolders

Scaffolders will wear harnesses at all times when erecting/dismantling scaffolds, they will clip on at all times when not working from a safe platform (see Appendix 1) Erection/ dismantling of special scaffolding (see appendix 1) may require double lanyards.

Steel Erectors

Where collective fall protection (guard rails, nets, etc) cannot be used Steel Erectors will use fall arrestors at all times, double lanyards must be used when working on open steelwork.

An HSE Department specialist should be consulted before reliance is placed on fall arrestors or nets.

2 SAFETY NETS

The use of a net must be the preferred method of fall arresting however were this is not practicable harnesses may be considered as an effective alternative. The erection and dismantling of safety nets can be a hazardous operation therefore it must only be undertaken by trained operatives, carefully planned and supervised.

Prior to the use of safety nets a Method Statement must be produced and approved by the HSE Department specialist.

3 HARNESSSES

Harnesses must:

- Be purchased to approved standards
- Be inspected and used by a competent person

- Fit correctly and be kept in good condition
- Be secured to a suitable anchorage point

3.1 Procurement

BP owned safety harnesses and associated equipment should only be purchased by the BP Rigging section they will be purchased to the approved standards the minimum being a full 2 point body harness, the preferred supplier being (SPANSET).

Purchase of safety harnesses and associated equipment for joint use by Interserve and others (IES) will be purchased through the IES safety section, they will be purchased to approved standards the minimum being a full 2 point body harness, the preferred supplier being (SPANSET).

Under no circumstances must a mixture of different supplier components be used.

3.2 REGISTRATION and CONTROL

All BP owned harnesses and associated equipment will be registered, stored, controlled and issued from the BP rigging department in WS3, these will be available for any work carried out during normal working hours, should the need arise to use a safety harness in silent hours a limited supply can be obtained from Shift Fire Officer (SFO) in M203.

IES owned harnesses and associated equipment will be registered with the IES safety section, they will be allocated to relevant sections within the IES organisation who will be responsible for storage, control and issue of the safety harnesses.

In all cases the designated responsible section be it BP or IES will be responsible for recording the year of manufacture, the date of purchase, the serial number and hold the original certificate of conformity for all individual items.

Projects

All contractors owned harnesses used on site projects must be registered in the relevant Safety Plan or by the Responsible Engineer.

The user will sign out and return the safety harness after the agreed loan period to the relevant section/Engineer.

Unique Identification Number

All harnesses must have individual identification numbers; only water-based pens should be used for writing on the webbing.

3.3 INSPECTION

A nominated competent person for each section holding the harnesses must inspect all safety harnesses and associated equipment on a 3 monthly basis and record their findings on the record sheets, these records will be kept by the SFO, BP Rigging section, IES safety section or Project and made available on request.

User

It is the user's responsibility to inspect the safety harness and associated equipment prior to each and every use. This must be recorded in the Pre-Task Review book.

3.4 TRAINING

All inspectors must have attended the Spanset Height Safety Courses for Industry Modules 1 and 7 or equivalent.

Regular users of safety harnesses should have attended the Spanset Module 1 course or equivalent. They must attend a refresher course every 3 years.

Occasional users must attend a toolbox talk in the safe use and wearing of safety harnesses and associated equipment provided by the BP Rigging section nominated person or the SFO.

Inspectors and users working on site projects must provide proof of training to the relevant Responsible Engineer before using or inspecting any Safety Harnesses or associated equipment.

All permit signatories who control work at height must have either attended the Spanset Module 1 course within the last 3 years or must consult the BP Rigging Department before issuing a work permit to ensure that the correct work methodology has been selected.

3.5 ANCHORAGE

Harnesses must be secured to a suitable anchorage point as high as possible above the working position to limit the height of any fall when in use.

Anchorage points can be broken down into three categories

Structural anchorages – a piece of structure that the user identifies as being unquestionably sound, e.g. steel beam

Tested anchorages – an installed anchor that can be load tested without damage e.g. eye bolt

Certified anchorages – any installed or manufactured anchors that may be damaged during load testing e.g. sling, horizontal safety line.

Attachments may be made to anchor points utilising appropriate webbing slings or wire strops.

4 RESPONSIBILITIES

It is the responsibility of Duty Holders to ensure that Fall Arrestors are provided and used if it is not practicable to provide collective fall protection.

APPENDIX 3 – LADDERS AND STEP LADDERS

1 RESPONSIBILITIES

Responsible Managers will ensure that:

- Adequate provision is made for portable access equipment to be available within their Group.
- Arrangements are in place for the registration, inspection tagging, colour coding and maintenance of all local portable access equipment. Such arrangements will include the nomination and training of suitable Group personnel to carry out inspections and tagging.
- Where working from a ladder or stepladder could result in a fall which could result in personal injury, additional fall protection must be considered as part of the Risk Assessment.

Contract Managers will:

- Ensure companies for which they are responsible comply with this Safety Standing Order.

EQAI Department Manager will:

- Implement the issue of inspection notification and the current colour codes one month prior to the change.

The 'Colour Code' is changed on a 6 monthly rolling basis (1st January and 1st July each year) RED – BLUE – YELLOW- GREEN. Due to the amount of access equipment which needs to be inspected at the time of the change over, the colour codes will start to change one month before its effective date. Equipment displaying the next colour code during this time can be used.

Users will

- Inspect the equipment before use to check its condition and verify the correct colour code.
- In the absence of the correct colour code or if a defect is identified which requires that the item is not used, mark the equipment faulty and inform their supervision as soon as possible.

2 PROCUREMENT

All portable access equipment must be obtained through the normal purchasing procedure and be to the current British Standard.

3 INSPECTION

All portable access equipment must be registered by the Group and inspected by the nominated group personnel (or an approved contractor) at intervals not exceeding six months and appropriately tagged and colour coded.

Portable access equipment provided by contractors is subject to the same standard of inspection and colour coding by the contract company.

4 USE OF LADDERS

Ladders will be used only for light work of short duration or accessing a safe place of work.

Ladders must be sited on level stable ground, be securely tied or footed at all times while in use.

All ladders access must be kept clear of any obstructions, which may impede use.

When climbing ladders both hands should be kept free. Equipment should be transported using a "handy line" or suitable bag.

Only one person must be on a ladder at a time.

The person climbing shall face ladder at all times, and three-point contact shall be maintained when ascending and descending. No tools or equipment shall be carried by hand on a ladder.

Ladders used as an integral part of a scaffold do not require colour coding. Interference with scaffolding (including the removal of ladders) by unauthorised personnel is a statutory offence.

No interlocking or extension ladders shall be used unless its sections are prevented from moving relative to each other while in use.

5 USE OF STEP LADDERS

Wooden industrial stepladders:

- May be used at ground level in non-grated areas. Because of their vulnerability to instability, where it is intended to use them above ground level, on uneven ground or on grated floors, then precautions such as blocks or mats must be used.
- Must not be used within two metres of a structure edge unless additional fall protection is used, (e.g. extra railings, safety harnesses).
- The person climbing shall face the step ladder at all times, and three-point contact shall be maintained when ascending and descending.
- Step ladders should be of the correct height for the task, such that it is not necessary for the user to stand on the upper platform or top rung.
- Must be controlled in the same manner as ladders, e.g. by routine inspection and colour coding.
- Must be clearly marked with the Section/Duty, e.g. 'ACETYL/ ELECTRICAL'.
- Must not be used in circumstances where chemical contamination could occur.
-

6 USE OF ALUMINUM ACCESS EQUIPMENT

Due to its potential for providing a source of ignition in contact with rust and its high electrical conductivity, aluminium equipment is forbidden in Zone 0 or 1 Areas.

If aluminium ladders are used in unclassified areas of the site, they must be:

- Clearly marked with the location and owner, e.g. 'SO10/CLEANERS'.
- Put away when not in use so that inadvertent transfer into operating areas is not possible.

- Checked regularly and kept in good condition

7 MOBILE STEP LADDERS

Any mobile step ladders used for any work at height activity shall be prevented from moving before it is stepped on.

8 ROPE LADDERS

Due to the instability of Rope Access Ladders they:

- Must only be used in exceptional circumstances, when other means of access are not practical
- Must be installed by a competent person
- Should when necessary be used in conjunction with a fall arrest system.

APPENDIX 4 – ROOF WORK

1 OBJECTIVES

This appendix reflects the requirements of HSG33, Health and Safety in Roof Work and states the conditions under which any work on roofs may be carried out at Hull Site. This includes access and egress across a roof to the point of work.

2 RESPONSIBILITY FOR ROOF WORK

The responsibility for planning and co-coordinating all aspects of any work on a roof rests with the duty holder. They must ensure the requirements for a safe system of work are developed and communicated.

Projects involving roof work that come under the requirements of the Construction (Design and Management) Regulations must consider in the Pre Tender and Construction Phase Health and Safety Plan the responsibilities of the Designer, Project Co-ordinator and Principle Contractor in ensuring any roof work is carried out with the minimum amount of risk

The persons responsible for the design of roofs must consider how they can be safely erected, maintained and demolished.

Those involved in planning the work must consider the hazards and how to overcome them.

The people who carry out roof work should have adequate knowledge, experience, resources and equipment. The Method Statement and Risk Assessment should establish a safe work system (even if the work is of short duration).

3 RISK ASSESSMENT

Persons who have knowledge, experience and the resources necessary for the work to be completed safely must only undertake work on roofs.

All roof work must be preceded by a written Method Statement and Risk Assessment produced by those undertaking and controlling the work. A safe system of work must be established, taking into account the requirements of the attached Risk Assessment check list.

The method statement and risk assessment must be approved by an HSSE Department Advisor/Specialist and communicated to all persons involved in the work.

4 ROOF WORK RISK ASSESSMENT CHECK LIST

The following check list is to be used as an aide memoir to arrive at a safe system of work; the list is not exclusive or exhaustive. Consideration should be given to the following:

Fragile Roofs

Prior to any work commencing an inspection must be carried out by a Mechanical/Civil Engineer to determine the integrity of the roof. The inspection must consider the material of construction, and the possibility of deterioration (wood rot / corroded metal sheets). It should also consider roof lights or any other fragile material that has been used in the construction of the roof. The relevant Engineer must produce a signed document confirming the integrity of the

roof, this will then form part of the method statement. **Special precautions must be taken on roofs specified as fragile.**

Roof Inspection

Ladders (for single story buildings max 4 metres App3) or MEWP (App7) may be used for carrying out a visual inspection of the roof, however persons must not climb on to the roof from the ladder or MEWP.

Access to and from the roof

Independent scaffolds or mobile or fixed tower scaffolds should be the preferred option for all roof access even for short duration work. These must be tied in to the structure or supported in such a way as to prevent rocking or tipping. Consideration must be given to rescue or evacuation in the event of an emergency.

Possible Falls and their mechanism

Consider persons falling off the roof or through fragile roofs and skylights, on pitched roofs consider persons slipping from the eaves and sliding down the roof.

Fall prevention and fall arrest

Fall prevention must always be the preferred option this can be achieved by the provision of barriers to prevent access to roof edges, skylights or fragile roofs. Fall arresting means the provision of harnesses or safety nets (see appendix two). Safety nets should be the preferred option where practicable to prevent a person who falls from hitting the ground. When using harnesses or nets a provision for rescue must also be considered.

Falling material

Adequate precautions must be taken to prevent material falling off or through the roof. This can be achieved by using fine netting or scaffold boards. Consideration must also be given to preventing persons accessing the area below roof work.

Environmental Conditions

Adverse weather conditions such as rain/ice/snow and gusts of wind can create hazards. These must be assessed prior to work starting and then on an on going basis. Other environmental conditions such as poor lighting, heat, noise, dust, steam and fumes must also be considered

Material Handling

Keep the size and weight of material down to a minimum; also consider using a less hazardous material such as cold bitumen rather than hot.

Stacking/Storage of Materials on roofs

This should be minimised and any material must be safely stored and secured to prevent dislodgement in windy conditions or causing a trip hazard. Waste chutes must be considered for the disposal of waste material from roofs. Materials, tools or equipment must not be thrown up or down from any work area.

APPENDIX 5 – SUSPENDED BASKETS AND SKIPS

1 INTRODUCTION

This method should only be used when it is not practicable to use other means of access. Before use an HSSE Department specialist and a Chemical Plant Erector Supervisor must inspect the equipment. A copy of this Appendix must be attached to the permit to work for the job. A Risk Assessment and Method Statement must be produced by those planning the work and must cover the requirements of Section 2 of this Appendix and Regulation 5 (Lifting Equipment Used For Lifting Persons) and Regulation 9(3)(Thorough Examination and Inspection) of *The Lifting Operations and Lifting Equipment Regulations 1998*.

2 STANDARDS

2.1 Suspended Basket

The basket must:

- Be designed to carry persons (3 maximum) and equipment.
- Have sides at least 900mm deep
- Be currently certified for a SWL of 500 kgs
- Have connection to the crane hook by 2 x 2m head wires, (one fitted to the lifting eye at the top of the basket and the other fitted under the top frame of the basket)
- Have all the associated wires and shackles rated at twice the Safe Working Load (SWL) of the basket.

2.2 Suspended Skip

The skip must:

- Be designed to carry persons (3 maximum) and the equipment.
- Have sides of at least 900mm deep
- Be currently certified for a SWL of 2000 kgs.
- Be connected to the crane hook by a four-leg sling with a combined SWL of 2tes
- Have an additional head wire and shackle with a SWL of 2000 kgs attached to the lifting ring of the four-leg sling.

2.3 Operating Requirements

- All shackles used must be moused to prevent the shackle pins becoming unscrewed.
- All persons in the basket/skip must wear a safety harness attached by a safety line to the crane hook. The safety line must be as short as possible.
- The controls of the equipment for lifting persons must be manned at all times.
- There must be clear means of communication between those being lifted and the person at the controls.

- Where practicable, entry into the basket/skip should be made from a suitable area as near as possible to the work site to minimise the time spent riding in the basket/skip
- Account should be taken of wind speed and weather conditions.
- Movement of the basket/skip must be controlled by a banks man in the basket/skip (or other suitable location to observe the operation). The banks man should be in radio contact with the person controlling the lifting equipment.
- Where practicable guide ropes should be attached to the basket/skip to prevent swing or rotation
- An emergency plan must be in place to ensure safe evacuation in the event of an incident.

APPENDIX 6 – WORK OVER OR NEAR WATER/MUD/SLUDGE

1 SCOPE

This details the responsibilities and procedures to be adopted when working over or near water/mud/sludge and the provisions for rescue in the event of a fall.

“Work over or near water/mud/sludge” means, where a person is working above or within one metre of water/mud/sludge, which is not protected by a guard, rail, e.g. a Scaffolder who is erecting or dismantling a scaffold.

2 RESPONSIBILITIES

The person authorising or controlling the work must ensure that a risk assessment has been carried out before commencement of any work covered by this Appendix, to enable a safe system to be devised.

Fall prevention is a prime consideration and is achieved by the provision of a safe place of work, with safe access and egress. Where this is not possible by conventional access methods then other means such as fall arrestors (See Appendix 2) must be considered

The risk assessment must consider:

- The need for life jackets or buoyancy aids,
- Communication aspects,
- Transport to and from the place of work,
- Weather and tidal conditions,
- Toxic and biological aspects of mud/sludge and its impact on rescue
- The need for the attendance of any trained specialists.

3 PROVISIONS FOR RESCUE

3.1 Working Over Mud/Sludge

In the event of a fall into mud/sludge, sufficient and suitable persons and equipment must be available to raise the alarm and conduct a rescue. This should consist of: -

- A minimum of three persons
- A ladder of sufficient length for rescue
- Crawling boards or other means of distributing weight
- Safety lines

Persons identified during the risk assessment should only attempt rescue. Before attempting a rescue, consideration should be given to the likelihood of rescuers being affected by:

- Mud and or sludge
- Any tidal conditions

3.2 Working Over Water

When working over tidal water a rescue boat must be provided. The boat must be of sufficient length to afford stability and comply with the following requirements:

- Manned continuously by a minimum of two experienced boat persons who are qualified first aiders and who are on patrol whilst work is in progress
- Have two-way communication between boat and shore
- Be power driven with a fixed self starting device
- Carry an adequate first aid kit
- Have three oars, grab lines, life buoy, boat hook, baler, anchor and line, as standard equipment
- Be fitted with a powerful light/spotlight if working at night

APPENDIX 7 – MOBILE ELEVATED WORKING PLATFORMS (MEWP)

1 SCOPE

These are the conditions under which Mobile Elevated Working Platforms (MEWP), e.g. scissors lift masts, telescopic and articulated booms, truck mounted, self-propelled or trailer units, can be used on Hull Site.

The Rigging Team Leader or his nominee will control the hire and distribution of all MEWP used in any area of Hull Site.

They should only be used to access a temporary workplace at height; they should not be used as a crane or a jack support or to transfer a person from the platform to a workplace at height.

2 WORKING LOADS

The Safe Working Load (SWL) specified by the manufacturers must be displayed on the machine. Neither the maximum number of persons to be carried nor the SWL must ever be exceeded.

Consideration must always be given to:

- The accumulation of tools or materials on the platform
- The placing of heavy equipment such as valves, motors or fans onto the platform
- Uneven distribution of equipment or shock loading of the platform

3 OPERATING A MEWP

All MEWP require electrical inspection certificates and may require spark arrestors depending on the work area. Due consideration must be taken of adverse weather conditions such as ice, poor visibility or high winds. Some MEWP may travel with the platform in the raised position, or with the boom extended. Before travelling the following must be checked by the operator(s):

- All platform occupants are wearing safety harnesses with a 1 metre (max) safety restraint line (*1.5 metre max safety restraint line maybe issued in exceptional circumstances) connected to a designated safe anchorage point inside the platform.
- Adequate warning is given to persons on the ground of the intent to move.
- The ground will support the weight of the machine.

There are no:

- Ramps, trenches, holes or other ground obstacles
- Overhead hazards such as electrical cables or building projections
- Insecure loads or materials that are liable to fall from the platform
- Trailing hoses or cables, which may snag

Falls and falling objects

All occupants and equipment must be suitably restrained to prevent them falling from the MEWP.

Suitable edge protection, lanyards, tools bags or other means must be used to prevent all tools, equipment or materials etc falling from the MEWP during operation. Toe boards must be a minimum of 100 millimetres high.

4 OUTRIGGERS

Machines must not be moved with the outriggers deployed. Before deploying outriggers the following must be checked that:

- The machine is level or can be levelled up
- The ground is capable of supporting the load on the outrigger
- The machine or outrigger is not positioned over trenches, sewers, drains, manholes or anything that may collapse
- The counter weight, if applicable, has a clear arc of movement

5 TRAINING REQUIREMENTS

Any person operating a MEWP on the Hull site must have a Full DVLA driving licence and a certificate of competency for the particular type of machine they are operating.

6 CONTROL

The Rigging Team Leader or his nominee must check the operators licence and training details before the MEWP is issued for use.

APPENDIX 8 – ACCESS TO VEHICLE TOPS

1 SCOPE

The intent of this Appendix is to ensure where access is required to the top of a vehicle such as a tanker, lorry, etc effective measures must be taken by the duty holder to prevent persons from falling from height.

The need to climb onto the top of vehicles must be avoided whenever possible. The preferred standard should be to use tankers that do not require top access, use vehicles which have automatic covers fitted or covers which can be installed or removed from ground level. Where this is not practical, a Risk Assessment must be carried out to ensure the risk of falling is eliminated or controls implemented to minimise the distance and consequence of the fall.

2 RISK ASSESSMENT

The Risk Assessment should consider the following:

- Height of the working platform
- Frequency of access
- Nature of the task (sampling, maintenance, cleaning, manual handling of loads, etc)
- Equipment being used (tools, dip rods, lifting shackles, strops etc)
- PPE being worn
- Exposure of the location (weather conditions, vents)
- General standards of supervision
- The experience, training, health and fitness of the individual conducting the work.

3 SITE STANDARD

The following should be considered as minimum site standards that must be adopted in the event of having to access vehicle tops.

- Access to tanker tops must be from a fixed gantry or fixed access point, all access points must be fully enclosed by guardrails
- Tankers will be provided with an access ladder and a top non-slip walkway with guardrails at both sides of the walkway
- A mobile access platform providing full edge protection, persons using the platform must wear a full harness and not climb from the platform on to the tanker or other vehicle tops. Mobile ladder platforms or scaffolding may also be considered providing they provide full edge protection.
- A system of fixed beams or a suspended cable located above the access point to the tanker or other vehicles, with a retractable inertia reel harness fitted. The harness must be accessible from ground level.
- Access to tops of Lorries should be by permanently fixed ladders, where this is not possible, portable ladders/steps may be used. The ladder/steps must sited on level stable ground and be secured before use (see Appendix 3).

4 ACCESS/ LOADING AREAS

All loading and unloading areas should be easily accessible, well lit and have a high standard of housekeeping.

Access to the top of a tanker will be prohibited in the Vehicle Marshalling Yard Area.

Vehicles should be sited on level stable ground.

Persons must not jump down from the tops or cabs of vehicles.

5 SAMPLING

Sampling will only be allowed from an adequate fixed location such as a loading gantry. Sampling at an approved off site location or at the source of loading should also be considered.

6 FURTHER ADVICE

Any requirement to deviate from these site standards must be discussed with the HSSE Department.

APPENDIX 9 – TOOLS/EQUIPMENT FALLING FROM HEIGHT

1 OBJECTIVE

Tools or equipment falling from height always has the potential to cause serious injury or damage to plant. This appendix highlights the need to identify potential modes of failure and high-risk areas. It also advises on the precautions that should be taken to minimise the risk of objects falling from height.

2 RESPONSIBILITIES

It is the responsibility of those carrying out or controlling work to ensure that their risk assessment considers the probability of objects falling from height. It must also assess the consequence of such an incident and ensure adequate provisions are in place to avoid such incidents occurring

3 MODES OF FAILURE

The potential modes of failure are those caused by loss of control over handling (persons dropping objects) or objects falling due to improper storage or housekeeping.

4 HIGH RISK AREAS

High-risk areas are those areas that due to their location or design have the potential that in the event of an object being dropped or falling it is unlikely to be contained in a safe manner.

Grated areas, areas around vessels and columns, areas over walkways and roads are examples of high-risk areas.

5 PRECAUTIONS

Persons working in high-risk areas must be adequately trained in the correct use of the tools and equipment associated with the work they are expected to perform.

Where practicable hand tools should be fitted with lanyards and the lanyard secured to a fixed point or the person. Tools and equipment must be stored in a safe manner when not in use i.e. tool belts, tool bags or bolt boxes and care must be taken to ensure they cannot be dislodged.

Good housekeeping standards must be set and maintained in all work areas and adequate storage such as bolt boxes must be provided.

High risk areas must be assessed prior to work commencing, gaps where tools or equipment could fall through if dropped should be identified. Precautions such as sheeting, matting, side netting and timber in fills should be used to contain any object that may fall.

Further advice can be obtained from the HSSE Department.

APPENDIX 10 – PAINTERS CRADLES AND BOATSWAINS CHAIRS

1 OBJECTIVES

This appendix gives the standards that must be applied when using Painters Cradles or Boatswains chairs to gain access to a workforce at height. These methods should only be considered when it is deemed impracticable to use scaffolding. Prior to the work starting those controlling the work must provide a Method Statement and Risk Assessment. All equipment must comply with BS 2830 Specifications for suspended access equipment (suspended chairs, traditional steeplejacks seats, work cages, cradles and platforms).

The Method Statements, Risk Assessments and certification must be approved by the HSSE Department prior to work commencing

2 PAINTERS CRADLES

Painters cradles must be of the power winch cradle mounted rise and fall type. The winch must be fitted with a steel suspension rope and a safety rope; both ropes will have a top limit switch striker plate. They will have a fixed cradle that will be fitted with guide rail, toe boards and a closely boarded platform. The cradle must be marked with the safe working load, operating procedures and the precautions that must be taken in the event of an emergency. Persons using the cradle must be trained and certificated in the use of that particular type of cradle and will wear and use safety harnesses when in the cradle.

3 RIGGING

The erection of a cradle must be carried out and supervised by an experienced competent person who, on completion will issue a certificate of examination to the users. A competent person will then be nominated to inspect the cradle daily and after every repositioning of the cradle, these inspections must be recorded on a daily checklist.

4 BOATSWAINS CHAIRS

Boatswains chairs should only be used for work of short duration and where no other means of access such as a cradle or scaffolding is practicable. Prior to use a certificate of compliance from the manufacturer, proof of competence for erection and use, a Method Statement and Risk Assessment will be required. The competent person will carry out an inspection of the equipment prior to use, whenever it is repositioned or on a daily basis. These inspections must be recorded on a daily checklist.

APPENDIX 11 – LIFTING OR REPLACING GRATINGS, WALKWAYS OR SIMILAR PERMANENT MEANS OF ACCESS AT HEIGHT.**1 OBJECTIVES**

The procedure within this appendix must be applied when any person has to remove or replace a permanent means of access such as grating or part of a walkway. This may be to facilitate the removal or installation of plant or equipment or to gain access to a work face.

2 RESPONSIBILITIES

It is the responsibility of the duty holder to identify within the Method Statement situations where the removal of a permanent or part of a permanent means of access might be required. They must ensure those carrying out the work are competent to do so and they must consider within their risk assessment the procedure that must be followed to prevent persons or equipment from falling through or into a hole left by its removal.

3 PROCEDURE FOR GUARDING HOLES

Below are some examples of methods that may be used for guarding holes; any deviation from these must be agreed by the HSSE Department.

- In the event of a hole being created for a short period of time, a standby man may be placed at all access points to the hole to issue a warning of its presence.
- A solid guard rail (scaffold tube barrier) and toe boards may be placed around the hole to prevent access
- The hole may be covered over by suitably supported and secured plating or scaffold boards.

4 REPLACING

Those replacing permanent or parts of a permanent means of access such as gratings or walkways must:

- Ensure it is correctly fitted. They must replace all fixing devices such as clips and bolts and check they are secure and do not create a trip or fall hazard.
- Ensure that the appropriate means of fall prevention / fall protection is in place until the replacement has been completed

APPENDIX 12 – PROCEDURE FOR THE REMOVAL OR REINSTATEMENT OF PLANT AND EQUIPMENT AT HEIGHT

1 SCOPE

It is often the case when removing or reinstalling plant and equipment such as columns, a small team of multi-disciplined personnel is set up to carry out the work. Scaffolding is normally used to gain access to the workface and the scaffold will normally require modifying to assist in the removal or reinstallation of the equipment. Modifications to a scaffold must only be carried out by a qualified Scaffolder (Appendix 1 SSO301).

2 RESPONSIBILITIES

It is the responsibility of the duty holder to identify this type of work. A Risk Assessment and detailed Method Statement must be produced prior to its commencement. The Risk Assessment must consider the fluid nature of the work and the need for on the job modifications. Those selected to carry out the work must be experienced and competent to do so. A Job Controller must be nominated by the Authorised Engineer to control the work.

The Nominated Job Controller

The Nominated Job Controller, who must be experienced and competent in this type of work will ensure:

- All relevant documentation such as method statements, risk assessments and permits are in place
- Those conducting the work read, understand and sign the relevant documents
- Each section of work is inspected and the method statement signed prior to the commencement of the next phase of work
- The Method Statement is reviewed following any changes in the scope of work and the changes are formally recorded and communicated to those carrying out the work

3 METHOD STATEMENT

The Method Statement must consider the sequence of work for the removal and reinstallation, the following must form part of the method statement:

- The initial scaffolding requirements for access to the workface
- The removal/reinstallation of auxiliary equipment such as pipe work
- The safe storage of auxiliary equipment when removed (use of bolt boxes)
- The fitting/removal of lifting equipment
- The modification of the scaffold prior to the lifting operation
- The reinstatement of the scaffold prior to progressing the work

Other safe systems such as the Pre Task Review Book and the Scaffold Risk Assessment will also form part of a safe system of work.

4 FALL PROTECTION

The workface must have adequate fall protection; this will normally be in the form of a complete working platform with guardrails and toe boards. In some cases the item of plant or equipment may also form part of the fall protection barrier, when this is removed, additional barriers must be fitted to prevent falls.

Fall prevention rather than fall arresting (harnesses) will be the normal standard, however harnesses will be worn and used by the team as an additional precaution. Further information on the standards required for working at height are covered in SSO 301

5 PROHIBITION NOTICE RESTRICTED USE SCAFFTAG

A Prohibition Notice Restricted Use Scafftag may be required; however this should only be used following consultation with an appropriate member of the HSSE Department or a nominated person. Persons working on a scaffold covered by a Prohibition Restricted Use Scafftag will use harnesses with double lanyards and be clipped on at all times

APPENDIX 13 – THE USE OF ROPE ACCESS EQUIPMENT ON HULL SITE

1 OBJECTIVES

This Appendix details the standards for the use of any Rope Access activity conducted on Hull Site. All rope access techniques performed will be in accordance with BS7985:2002 and Industrial Rope Access Trade Association (IRATA) guidelines. This will ensure that all works are completed in a safe and effective manner.

2 RESPONSIBILITIES

2.1 *Group Engineer*

The *Group Engineer* will ensure that:

- All Rope Access work carried out in their area of control complies with the requirements of this Appendix.
- The use of Rope Access is the safest and most practicable way of carrying out the work.
- The location and the scope of work have been clearly identified.

2.2 *Permit Requester/Job Organiser*

The *Permit Requester/Job Organiser* will ensure that:

- Group Engineer has deemed the use of Rope Access to be the safest and most practicable way of carrying out the work.
- The Permit Request form and Risk assessment have been completed.

2.3 *Permit Signatory*

The *Permit Signatory* will:

- Agree the scope and limitations of the work and ensure a Method statement and Risk Assessment are prepared.
- Ensure that the details of the Permit to Work, Method Statement and Risk Assessment have been communicated to those conducting the work and verifies the comprehension of the information
- Regularly monitors the work area to ensure compliance with the agreed Method Statement/Risk Assessment.
- Ensure that Appendix 13a Rope Access Commencement Checklist has been completed and is attached to the Permit to Work.

2.4 *Permit Acceptor*

The *Permit Acceptor* must:

- Ensure that the Method Statement and Risk Assessment has been communicated to those conducting the work
- Regularly monitor the work area to ensure compliance with the agreed Method Statement/Risk Assessment.

2.5 *Responsible Job Controller – IRATA Level 3 Technician*

The *Responsible Job Controller* (RJC)/IRATA Level 3 Technician must:

- Verify the competency of the team prior to the commencement of any work.
- Ensure that the proposed rescue plan is suitable for the designated work activity.
- Be present at the workplace at all times.
- Ensure that the appropriate warning signs and barriers are in place prior to the work commencing.
- Complete Appendix 13a Rope Access Commencement Checklist and provide a signed copy to the *Permit Signatory* before the Permit is issued.

2.6 Rope Access team

The Rope Access Team must:

- Sign and accept the conditions defined within the Permit to Work, Method Statement and Risk Assessment.
- Only conduct work activities covered by the Permit to Work.
- Stop work and seek guidance from the *Permit Signatory* if anything could or does compromise the safe system of work.

3 METHOD STATEMENT

Prior to the commencement of any Rope Access work a Method Statement must be prepared and involve the *Permit Requester*, *Permit Acceptor*, *Permit Signatory* and the IRATA Level 3 (RJC) Technician.

Consideration must be given to:

- The scope and location.
- The equipment to be used to conduct the work.
- The size of the team involved.
- Any other work ongoing in the area.
- The emergency plan.

4 RISK ASSESSMENT

The *Permit Requester*, *Permit Acceptor*, *Permit Signatory* and the RJC/IRATA Level 3 Technician must complete a suitable and sufficient Risk Assessment using techniques described in SSO 202, and should consider the following elements of the Rope Access work:

- Scope and location of the work
- Access and egress to and from the work site
- Process hazards
- Mechanical hazards
- Weather conditions (wind, rain, snow, fog, etc)
- Environment (noise, fumes, steam, dust, light, etc)
- Temperatures (hot / cold) in surrounding area
- Other work ongoing in the area
- Identification and agreement of anchoring points
- Control of falling objects

5 EQUIPMENT AND CERTIFICATION

Ensure that the ropes used are made of the appropriate material. Kevlar rope has been specified as the standard for Rope Access work on the Hull Site. The rope will have a Kevlar inner and a Nylon outer sheath. Data on the compatibility of Nylon/Kevlar with formic/acetic acid is available on the site materials website:

<http://hull.bpweb.com/inspection>

Before work commences the IRATA Level 3 Technician must ensure that all rope access equipment:

- Is in good condition
- Is marked with its own unique identification number
- Has been inspected and certified safe for use

A table of this information is provided in Appendix 13A. Each section must be duly signed by the IRATA Level 3 to confirm the above detail.

6 PERSONNEL AND CERTIFICATION

All Rope Access technicians must have a valid certificate of competency. Certificates are valid for a period of 3 years. Personnel who have not been involved in the use of Rope Access equipment for a period 6 months or more are required to undertake a refresher training course. Details of refresher training will be recorded in the individuals IRATA Log Book.

Before work commences the IRATA Level 3 Technician must ensure that all personnel involved:

- Have a valid IRATA certificate of competency indicating training level attained
- Have an up to date IRATA Log Book
- Understand the emergency rescue procedure.
- Have attended the local plant induction.
- Have familiarised themselves with the plant safety provisions.
- Have read, understood and signed the Method Statement/Risk Assessment and Permit to work.

A table of this information is provided in Appendix 13A. Each section must be duly signed by the IRATA level 3 to confirm the above detail.

7 THE ROPE ACCESS TEAM

All rope access teams will contain a minimum of 3 personnel trained in accordance with the IRATA Guidelines on the use of Rope Access Methods for Industrial Purposes.

All rope access teams will contain, as a minimum one Team Leader (Level 3) who shall be responsible for the initial site planning, rigging and organisation of tasks to be carried out by his team.

The Level 3 has the overall responsibility for the safety of the team and will remain on site during all Rope Access operations.

8 EMERGENCY RESCUE

In the event of an incident where a rescue needs to be implemented, the IRATA Level 3 technician will be solely in charge of his team and will co-ordinate the rescue with the assistance of the remaining team members.

It is the responsibility of the IRATA Level 3 technician to implement the rescue and to get the casualty to the nearest point of safety, where from the Emergency Services can then give assistance.

9 **CONFINED SPACE ENTRY**

Any Rope Access work undertaken within a confined space must be conducted in compliance with the requirements of SSO 203 'Entry into Confined Spaces'. Such cases require formal consultation with Site HSSE Department and / or the Site Emergency Response Coordinator before work is permitted.

10 **FURTHER ADVICE**

Any requirement to deviate from these standards must be discussed with the HSSE Department.

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APPENDIX 13a – ROPE ACCESS COMMENCEMENT CHECKLIST

List of checks to be completed prior to rope access work commencing as detailed in sections 5 and 6 of Appendix 13

Team Members		IRATA Training Level Attained	
1			
2			
3			
4			
5			
6			
	Equipment and Certification	IRATA Level 3 Rope Access Leader Signature	
A	Is in good condition		
B	Is marked with its own unique identification number		
C	Has been inspected and certified safe for use		
	Personnel and Certification	IRATA Level 3 Rope Access Leader Signature	
1	Have a valid IRATA certificate of competency indicating training level attained		
2	Have an up to date IRATA log book		
3	Understand the emergency rescue procedure		
4	Have attended the local plant/area induction		
5	Have familiarised themselves with the plant safety provisions		
6	Have read, understood and signed the Method Statement/Risk Assessment and Permit to Work		

This checklist is valid for the duration that the equipment and personnel involved is used on Permit Number:	
Date of Issue	

APPENDIX 14 - STORAGE TANK ERECTION (STAGING)

1. OBJECTIVES

This appendix details the standards for Storage Tank Erection (Staging) on Hull Site to ensure such activities are conducted in accordance with statutory requirements and good practice.

This standard has been produced jointly by representatives from contractors, clients and the HSE National Interest Group (NIG).

It is not a procedure, but, guidance towards a standard acceptable to all relevant parties of industry and it will apply only to tanks of steel construction.

2. DEFINITIONS

Storage Tank – includes cylindrical tanks, silos and spheres used for the storage of liquids, solids or gases.

Staging – a configuration of clips, brackets, uprights, guard rails, scaffolding boards, edge protection and ladders, which together provide a working platform for work on storage tanks.

Clips – a formed metal unit that is welded to the tank shell into which the staging bracket is located.

Bracket - a metal frame which locates into the staging clip forms the support for the working platform and the anchor point for the upright.

Upright - the part of the staging that locates into the bracket to form part of the edge protection system.

Staging boards - A number of boards, conforming to the standards of section 3.3 and which provide a platform from which work is carried out.

Jump Ups - An industry expression used to describe intermediate staging platforms

3. COMPONENTS AND STANDARDS

CLIPS

Clip Design

- The clip design and specification must be undertaken by a suitably qualified Design Engineer.
- The design arrangement should be capable of withstanding accidental shock loading (e.g. movement of goods and materials by crane in a vertical direction).
- The design calculations are to be retained for independent verification should the need arise.

Clip Manufacture

- Clips should be manufactured from a suitable material as defined in design, be of good construction, sound material, adequate strength and free from patent defect.

Clip Installation

- As an integral part of the staging, spacing of clips will be determined by board length and thickness, and should be at least 150mm away from a plate seam.
- Clips will be welded to the shell plates by a competent person, the standards of which will be detailed in the company method statement / welding procedures produced in support of design specifications.
- After clips have been welded they must be de-slugged, wire brushed and inspected by a competent person.

Clip Removal

- After Use clips should only be removed by cold cutting, grinding or chipping.

3.2 Brackets

Staging brackets provide the main support system for staging boards the design and specification must be undertaken by a suitably qualified design engineer. They should be of metal construction, suitable in size to withstand the intended loading and must accommodate the required number of boards for the platform widths.

The bracket should locate securely into the "clip" facility and when in position form a support system at right angles to the shell plate and/or horizontal to the ground. There should be a facility in which the staging uprights can be located and provision to prevent it from being accidentally removed.

3.3 Staging Boards

The presence of knots in staging boards may cause the board to break under load, therefore, Scaffolding boards which comply with BS 2482 Specification for Timber Scaffold Boards must be used in the construction of the staging.

If a board contains any defects, it should not be used to form a staging platform; boards should not be painted or treated in any way, which would conceal defects in them.

The ends of the scaffolding boards must be protected by metal banding.

The banding should indicate:

Suppliers Identification
M or V to indicate grading (M=Machine, V=Visual)
Maximum span of support permissible

3.4 Staging Platforms

- Platforms will be a minimum of 3 boards wide (except at ladder access points) both on the inside and outside of the tank.
- Gaps must be maintained as small as is practicable between the tank shell and the inside edge of the boards given the diameter of the tank. Maximum gap – 250mm.

- Lapping of boards will be acceptable, but should not present undue tripping hazards.
- Materials/equipment used in the construction of the tank shell must be prevented from falling from the staging platforms any distance which could cause injury to personnel in the work area.

3.5 Ladders and Access/Egress

The construction of the ladder will conform to the relevant British Standard:

BS 1129 – Wooden ladders

BS 2037 – Metal ladders

The positioning of the access ladder to any staging platform must be a primary consideration. The ladder should be where reasonably practicable:

- On an even hard standing area
- Clear of items, which could impede access.
- Angled at 1 metre out for every 4 metres high.
- Extend 1.05 metres above the working platform.

Ladders should be inspected prior to use, securely lashed or clipped and if rising above 4 metres should have intermediate support. A landing platform or rest area should be provided for ladders rising a distance of 9 metres or more.

So far as is reasonably practicable the ladder access to a staging platform should not be impeded. Ladders will be secured at the inner side of the staging adjacent to the tank shell. A safe and unobstructed access will be required between the side of any ladder and the outside edge of the staging.

The ladder opening to the staging level will be restricted to 600mm using an additional staging bracket and short board secured in place. The ladder opening must be barriered off to prevent personnel falling through.

3.6 Number of Access/Egress points

For tanks 30 metres diameter and over, a secondary means of egress must be provided.

For tanks less than 30 metres, each tank must be subject to individual risk assessment to determine this need.

3.7 Guard Rails/Toe Boards

A guardrail, toe-board, barrier or other means of protection must be provided at any edge where a person or material is liable to fall. The guard rails must be of adequate strength and designed to prevent the falls of personnel or materials from the platform.

The main guardrail (or other means of protection) must be at least 950 millimetres above the working platform. The maximum permitted gap between any guardrail and toe-board is 470 millimetres. Toe Boards must be at least 150 millimetres high.

4 TESTING AND INSPECTION

Boards

All boards should be inspected prior to use and at least weekly when installed as a working platform.

Clips

All clips will be inspected in line with the designers recommendations before they are used and after they have been installed. The inspector will indicate (on the clip) by suitable means that the clip has been inspected.

Brackets

All brackets will be inspected for fatigue cracks, deformities, etc by a competent person prior to installation. Records should be kept of such inspections.

Ladders

The user should inspect the access ladder prior to use.

A competent person should inspect the ladder for splits, damage, wear, etc at least weekly and records should be kept of such inspections.

Staging

All Tank Staging must be inspected prior to use, after any alteration, after exposure to adverse weather conditions or after any event that is likely to have affected its strength or stability.

A Competent Person must inspect the staging prior to use and every seven days thereafter. The inspections must be recorded on the appropriate form and the Scafftag. A Scafftag will be displayed at every access point.

Prior to issuing or updating a Scafftag, the inspector must confirm the staging complies with all current standards, has a high standard of housekeeping and does not cause undue obstruction to persons, equipment or plant in the area.

TRAINING

All personnel involved in Storage Tank (staging) erection and inspection must be trained and be competent to conduct their duties defined within this Appendix.

CONTROL

These are the conditions under which Storage Tank Erection (Staging) can be used on the Hull Site. The HSSE department specialist will approve the staging the first time it is erected to verify compliance with the design specification.

The Storage Tank Erection (Staging) method statement and risk assessment must be approved by the HSSE department specialist before any work is undertaken.