### Document: Contract HSE Management

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The following is a brief summary of the most recent revision/s to this document. Details of all revisions prior to these are held on file by the Document Custodian.

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<th>Date</th>
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<tr>
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<td>Removed CITB from the recognised training accreditation Appendix B, Added additional reference to use of Ladders and Safety Harness. Scaffold Appreciation course removed.</td>
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<tr>
<td>Version 3</td>
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<td>Simon Hughes</td>
<td>Significant revision of the specification to incorporate all work at height activities and remove unrelated content, including work over water, earthworks and lifting operations, to be featured in other PDO specifications/procedures.</td>
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<td>Kevin Doyle</td>
<td>Revised to reflect the changes in industry expectations in the competence training of scaffold workers, introduced the card carrying scheme for scaffold workers and included the Rope Access and life line elements. Also update in terms of recent legal decrees.</td>
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**User Notes:**

The requirements of this document are mandatory. Non-compliance shall only be authorised by MSE through STEP-OUT approval.
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PDO acknowledges the contribution of HSE UK in providing guidance documents stated in this specification.

Users are encouraged to participate in the ongoing improvement of this document by providing constructive feedback.

**Related Business Processes & CMF Documents**
The related CMF Documents can be retrieved from the Corporate Business Control Documentation Register [CMF](#).

### Related Business Processes

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<tr>
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1. Introduction

1.1 Purpose

This Specification describes PDO’s requirements for:

- Working at Height
- Temporary Access Equipment (Scaffolding, Ladders, Powered Access etc)
- Roped Access
- Personal Fall Protection Equipment

1.2 Changes to the Specification

This version of SP-1257 is a revision to reflect updates to the industry working at height practices.

- The fundamental aspects of scaffold in SP-1257 have not changed.
- The fundamentals of scaffold training have not changed.

The revised SP-1257 now includes:

- Rope Access

Some sections have been removed but are highlighted in other Company documents

- Work Over Water
- Lifting Operations (PR1708/PR1709)
- Earthworks

1.3 Scope

This Specification applies to all activities involving scaffolding (onshore and offshore), working at heights undertaken by PDO, and Contractor/Sub-Contractor personnel authorised to work on behalf of PDO.

Although this Specification is focused on "Construction Contracts", it applies equally to all similar activities, whether for maintenance, production operations or any other purpose.
1.4 Deliverables

1.4.1 Records

Records shall be maintained to document the implementation of this Specification (refer to CP 122 HSE Management System Manual, Chapter 6).

Records to be maintained include but are not restricted to the follow (see individual sections for more details of specific records):

- Scaffold inspection reports
- Scaffold request forms
- HEMP risk assessments and method statements
- Training records and qualifications
- Maintenance and inspection records for plant and equipment
- Design drawings, calculations and design check certificates
- Manufacturer’s instruction manuals and technical data

Personnel Records for Work at Height Employees

Personnel records of scaffolders shall be maintained and kept up to date. They shall show:

- Card Number
- Full name of employee
- Date of birth
- Job category
- Employment application or personal data sheet (resumes)
- Company service agreement
- Copy of employee papers. (with visa page, labour permits, NOC’s)
- Authorisation for the release of personal data and record information
- Records of disciplinary actions and unsatisfactory performance
- Records of exceptional performance and achievements
- Medical assessment reports
- Resignation notices
- Copy of PDO passes and driving licence.

1.4.2 Reporting of Non-compliance

For Contractors, any non-compliance with this Specification shall be reported to the Contract Holder.
1.5 Performance Standards & Guidance

This specification is the main performance standard for work at height for PDO. To support this specification document a guidance note has been prepared to provide further information and reference (see GU 363 Guidelines for Work at Height).

A number of other external documents are sited in this specification that are also considered minimum performance standards and guidance. These external performance standards and guidance documents are listed in Appendix A, these include:

- International Standards (ISO)
- European Standards (EN)
- National Standards (BS, OSHA, ANSI)
- Industry Guidance (IPAF, NASC, PASMA etc.)

1.6 Performance Monitoring

Compliance with this Specification shall be monitored through competent workplace supervision and periodic site inspection and auditing.

1.7 Review and Improvement

Any user of this document who encounters a mistake or confusing entry is requested to immediately notify MSE using the ‘User Feedback Form’ provided in CP 122 HSE Management System Manual, Part 2 Chapter 3.

This Specification shall be reviewed every 4 years. However changes to the current version may be made in less than four years as the need arises depending upon the issue of new and relevant environmental legislation and/or major organisational changes in PDO.

2. Responsibilities

Asset Managers

Asset Managers are responsible for ensuring that the activities they control are managed in accordance with the requirements of this Specification.

In the event that circumstances prevent compliance with this Specification, Asset Managers shall seek the advice and if necessary, a ‘step-out approval’ from the Document Authority. This approval requires recording subject areas, which do not conform as a non-compliance (refer to the ‘Non Compliance Report Form CP 122 HSE Management System Manual, 7, 7.2.5).
Corporate Functional Discipline Heads

Corporate Functional Discipline Heads are responsible for ensuring that the requirements of this Specification are reflected in the documents for which they are responsible.

Contract Holders

Contract Holders are responsible for communicating this Specification to Contractors, and for ensuring that the requirements of this Specification are adhered to within the scope of their contracts.

In the event that circumstances prevent compliance with this Specification, Contract Holders shall seek the advice and if necessary, a ‘step-out approval’ from the Document Authority. This approval requires recording subject areas, which do not conform as a non-compliance (refer to the ‘Non Compliance Report Form CP 122 HSE Management System Manual, Chapter 7, 7.2.5).

Contractors

Contractors are responsible for ensuring that activities undertaken within the scope of their contracts are managed in accordance with the requirements of this Specification and reported, where applicable to the Contract Holder.

3. Legal Requirements

Legal requirements for industrial safety in Oman are established in Chapter 7 of Sultan’s Decree No. 35/2003 “Oman Labour Law”. Legal requirements stipulate:

Article 87:

Every employer or employer’s representative must, before hiring an employee, acquaint him with the hazards of his occupation and the preventive measures, which must be adopted.

The employer must take the necessary precautions to protect the employees during the work from injury to their health and dangers of work and machinery by:

- Providing adequate safety and hygienic conditions in places of work or the tools he delivers to the employees for carrying out their duties.
- Making sure that places of work are always clean and comply with the conditions of health, safety and occupational health.
- Making sure that machinery, pieces of equipment and equipment are installed and kept in a safe condition.

The employer is not allowed to charge the employees or deduct from their salaries any amounts for the provision of such protection.

Inspectors appointed by the Ministry have the power to examine the worker-related records of an establishment and to enter places of work. Inspectors also have the...
authority to question whoever they wish and to publish reports on the results of their investigations. On the basis of the reports produced by the inspectors, the Ministry will issue a written warning to an employer who infringes the regulations, stating the nature of the offence and the time limit set for it to be discontinued.
4. Design, Planning and Organising for Work at Height

This specification promotes the awareness and subsequent site assessment of all potential fall areas. The control measures should be stated in the HEMP records (Hazard Effect Management Process).

To provide some meaningful guidance and differentiate between slips, trips and falls at the same level, PDO have established 300mm as the height where temporary fall protection and access and egress needs to be considered (see figure 1 below).

Fig. 1 Guide for identifying where temporary fall prevention and protection measures are required.

PDO Life Saving Rule (LSR) states:

‘Use specified fall-prevention equipment when working at height’

This LSR is a dictate to use fall prevention equipment in the absence of other controls e.g. scaffold working platform. SP-1257 details the hierarchy of control measures, for working at height (any level).

**NB:** When working on a completed and approved scaffold, working platform, it is not necessary to wear a full body harness.

Fig. 2 LSR 2m rule for work at height
The following hierarchy of controls is central to this work at height specification and must be applied in all cases when planning work at height and selecting the most suitable access equipment and control measures:

(i) **Avoid**
- Avoid work at height where possible.
- Design out the need for temporary access.
- Use existing access and places of work - use a safer alternative (e.g. avoiding the need for people to be exposed to the risk of falling while erecting, altering and dismantling scaffolding). Assess the suitability of existing places of work, permanent accesses/stairways before resorting to temporary access and the risks involved.
- Innovative design and planning - Pre-erect protection on the ground avoiding elements of work at height e.g. pre-fix guardrail edge protection to structural steelwork before lifting in to place by crane.
- Avoid handling materials and equipment at height, where possible.

(ii) **Prevent**
- Choose the most suitable equipment to prevent falls from height of people.
- Prevent objects falling from height.
- Use collective fall prevention measures (e.g. guardrails and toeboards) before resorting to personal measures (e.g. a fall restraint lanyard and harness, work positioning or rope access equipment).
- Select and use the correct equipment (specification, design, testing, maintain and inspection of equipment).
- Engineering calculations, checking, inspection and testing.
- Inspect service and maintain equipment.
- Testing where necessary (e.g. foundations, anchor ties etc.).

(iii) **Protect**
- Segregate work areas with physical barriers or similar.
- Physical protection measures (e.g. fans, sheeting, pavement gantries) to protect against falling objects.
- Mitigate the risk - reduce the fall distance or potential severity (e.g. use shorter ladders or stairways before long ladders).
- Use collective protection measures (e.g. safety netting) over personal (e.g. fall arrest harness and lanyard).
- Warning signs and sentries.
- Planning for emergencies and rescue.
- Information, Instruction, Training and Supervision.
- Personal Protective Equipment - the last resort (e.g. Fall arrest safety harness and lanyard or head protection for falling objects).

As a general principle of this specification, no person shall be exposed to a risk of a fall or the risk of being struck by falling objects without suitable
precautions being taken in accordance with this hierarchy of controls (above). This includes falls below ground e.g. a trench, basement or open vessel.

4.1 Design

Design of new installations/structures and planning of construction and maintenance, through design risk assessment and innovative design, will endeavour to eliminate the need to work at height or provide temporary access equipment. Where temporary access equipment would be required for construction or future maintenance, then Designers must give consideration to requirements of such temporary equipment for security, stability, safe assembly and use.

This specification states where design input is required before the use of certain types of work at height equipment. Temporary works designers must be deemed competent and must complete the necessary checks in accordance with this specification. Contractors who are required to carry out temporary works design must demonstrate design control procedures and design checks in accordance with the principles outlined in BS5975:2008 +A1: 2011 Code of practice for temporary works etc. Design checks must be carried out in accordance with the following table:

<table>
<thead>
<tr>
<th>Category</th>
<th>Comment</th>
<th>Checker</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Standard Solutions</td>
<td>PDO Representative / contractor’s management team.</td>
</tr>
<tr>
<td>1</td>
<td>Simple Designs</td>
<td>Checked by another member of the design team (not the original designer).</td>
</tr>
<tr>
<td>2</td>
<td>Complex Designs</td>
<td>*Another Engineer (not involved or consulted)</td>
</tr>
<tr>
<td>3</td>
<td>Complex or Innovative Designs with considerable engineering judgement involved.</td>
<td>*Check carried out by another organisation</td>
</tr>
</tbody>
</table>

*Categories 2 and 3 must be recalculated from the original design.

Table 1 – Design checking requirements as per BS 5975 Code of Practice for Temporary Works.

For categories 1 to 3 a design check certificate must be completed and retained within a drawing register. A copy of a design check certificate is appended to this specification in Appendix E.
Where necessary contractors and PDO employees planning for the use of work at height equipment may need to seek design input from PDO or another competent engineer, before installing or using work at height equipment on a suspended surface (e.g. floor, vessel, plant, building roof etc.) or supporting structure (e.g. steel infrastructure). Design input may also be required for other temporary works such as foundations for large scaffolds or mobile plant equipment (e.g. large truck mounted MEWPs or Cranes for use with man-rider baskets).

The design management requirements for work at height equipment (such as scaffolding) are covered in further sections of this specification.

4.2 Working Platforms

This specification applies to all temporary working platforms for work at height construction and maintenance workers only. A higher specification may be required for other workers (office staff), visitors or the general public. Special consideration needs to be given for temporary access equipment provided in place of a permanent means of access and egress (e.g. a temporary replacement fire escape to an office building).

Note that there are different specifications for ‘onshore’ and ‘offshore’ installations. Where a product specification has different dimensions to those specified in this specification, then the higher standard of safety must be adopted (see Appendix ‘A’ Performance Specifications).

All working platforms and constituent parts shall be of sufficient strength and stability to prevent collapse, overturning or accidental displacement during their intended use. All structures and surfaces must be assessed to ensure they will adequately support temporary working platforms and access equipment, and where necessary specialist engineering advice, testing and calculations obtained (e.g. scaffolding to be suspended from a pipe rack structure or based out on top of a vessel).

Working platforms must be of sufficient dimensions to allow safe working and safe passage of people and materials, within the constraints of the workplace environment. As a guideline working platforms should be a minimum of 600mm wide and clear access in height of 1900mm, where possible. Platforms for access only may be a minimum width of 500mm.

Guardrails and handrails must be secured so that they do not become accidentally displaced. Guardrails are for preventing people from falling only, where protection is required for bulk materials, vehicles or other mobile plant, then special consideration needs to be given to such edge protection and design advice sought.

A main guardrail shall be provided at least 950mm above the surface of the working platform. There shall be no vertical gap greater than 470mm onshore and 250mm offshore. There is no maximum height of a guardrail specified providing the maximum vertical gap dimension is maintained, therefore additional guardrails can be provided as determined through risk assessment (HEMP).
There shall be no lateral gaps in guardrails except for access and egress, in which case must be protected to prevent people falling (e.g. gates, hatches or similar protection), with the exception of stairways where access opens onto a landing area (see methods of access and egress section 5.10).

Guardrails shall be provided to stairways to the same dimensions. The main guardrail (min 950mm) must be capable of being used to maintain a handhold (handrail). Toeboards are not required for the stair sections, however must be provided to the landings of a stairway.

A toeboard of at least 150mm must be provided above the working platform to prevent people or materials falling. There shall be no gap (or a minimal gap no greater than 25mm) between the toeboard and the surface of the platform. Alternatively a catch-rail, at the same dimension (150mm), may be appropriate for personnel fall protection (e.g. at a sloping surface where a timber board may fail or access is required to edge of a surface that would be impeded by a toeboard), however the risk of falling objects must be managed where a toeboard is not provided.

Where existing places of work or other existing barriers are to be used for a temporary working platform, or part of, then the existing guardrails and toeboards (alternative barrier) needs to be assessed against this specification to be deemed suitable.

If any platform, guardrail or toeboard needs to be removed to allow the passage of materials, plant or equipment, or the performance of a task, then it shall only be removed for the shortest time necessary and reinstated as soon as possible thereafter. Before any platform, guardrail or toeboard is removed suitable compensatory measures must be taken to protect against the risk of a fall or falling object. Only competent and authorised persons may alter or adapt working platforms (e.g. scaffolders). The passage of materials or equipment should be planned and where necessary loading bays or towers provided with special loading gates that allow the passage of materials whilst maintaining collective guardrail protection.

The general requirements for working platforms and the minimum dimensions required; these are illustrated below in figures 3 and 4. Planning for work at height must ensure that all working platforms conform to these minimum requirements.

All permanent working platforms and access ways shall be designed in accordance with EN 1991 (Eurocode 1) Actions on Structures.
Fig. 3 Minimum dimensions for working platforms on-shore

Fig. 4 Minimum dimensions for working platforms off-shore
4.3 **Work at Height Equipment**

All work at height equipment must be fit for purpose and maintained in good order. After installation and before use, all work at height equipment must be inspected, and if necessary tested, before use for the first time or after substantial alteration or adaption. Thereafter, all work at height equipment must be inspected at suitable intervals as determined by this specification or more frequently if necessary to check for deterioration or after any event that may adversely jeopardise its safety or integrity.

Records of the appropriate inspection, examination or testing must be kept in accordance with the relevant requirements of this specification.

Work at height equipment must conform to the specification requirements in Appendix A Performance Standards. Where equipment falls outside of the scope of these requirements listed or is manufactured/supplied to an alternative comparable standard, then ‘special dispensation’ must be granted in the form of a ‘step-out approval’ from the Document Authority.

Proprietary work at height equipment (i.e. system scaffolding) must be used in accordance with the manufacturers’ instructions. Otherwise, or as stated in this specification, must be designed by a suitably competent engineer (see other sections in this document for more details regarding design engineering e.g. scaffolding).

Homemade or improvised work at height equipment or access equipment is strictly prohibited.

Only competent and authorised persons are permitted to erect, alter, dismantle - or where appropriate, use (MEWP, Rope Access etc.) - work at height equipment, as detailed within this specification.

4.3.1 **Aluminium Alloy Work at Height Equipment/Components**

Aluminium alloy shall not be used in any type of work at height equipment in designated Zone 0 or Zone 1 hazardous areas.

4.3.2 **Damaged or Defective Equipment**

Damaged or defective equipment must be removed from use and placed in a clearly signed quarantine area or labelled ‘Do not use’ until repaired or disposed of to prevent use. Where possible physical steps should be taken to prevent use e.g. mechanically disabled or destroyed.

Repairs must only be carried out by authorised and trained persons using suitable components and spares.
4.4 **HEMP, Risk Assessments & Method Statements**

The use of work at height equipment must be subject a risk assessment and method statement (or work plan).

The complexity of the access equipment will determine how much detail is required in the risk assessment and method statement. A standard (generic) risk assessment/method statement may be acceptable for routine work (e.g. a basic access scaffold to inspect a leaking valve) at height operations providing it is supplemented with job specific information (e.g. via the permit to work system or similar task based risk assessment).

4.5 **Permit to Work Systems**

The use of work at equipment (including erection, altering and dismantling operations) will be subject to the requirements of the permit to work system (ref PR 1172 Permit to Work System Procedure Manual).

In addition to the normal Permit to Work systems on site, certain work at height operations (Rope Access) or high structures (stacks or roofs) may require special access permits. In such cases permanent access ways must be restricted and warning signs displayed stating ‘No Unauthorised Access’ and ‘Access Permit Required’.

4.6 **Danger Areas**

Any area where people may be exposed to a risk of falling or be at risk of injury from falling objects shall be designated as a work at height ‘danger area’.

Where a danger area has been identified access must be restricted, where possible, to prevent unauthorised access by:

1. Physical means to restrict access with barriers or similar measures.
2. Warning Signs (see Appendix G Examples of signs and notices for work at height)

The same precautions are required for incomplete or out of service scaffolds (see section 5.12).

As a general principle, operations should be co-ordinated so that work at height is not carried out aloft or above other workers, access ways etc. Where this is not a practicable option, then steps must be taken to prevent objects falling from height (tying of tools and materials) and provide physical protection from falling objects (e.g. pedestrian gantries with crash decks, protection fans, sheeting or debris netting etc.).
4.7  **Adverse Weather**

Management and supervision must consider the increased risks to health and safety from adverse weather conditions when planning, organising and managing work at height. This must include:

- High winds
- Lightning
- Sand-storms (shimal), fog and mist where visibility is reduced
- Extremes of temperature (heat stress and cold)
- Wet or slippery surfaces

4.7.1  Work in high winds

As a general rule all work at height shall cease when wind speed reaches 40 km/h. However, consideration must be given to the stated maximum wind speed for operating proprietary work at height equipment as per the manufacturer’s instructions (e.g. a MEWP may state a lower maximum wind speed). The only exception being such work which is intended to render the structure or work at height equipment safe.

Sheeting, netting, a temporary roof, habitat, shelter or large sign board must not be added to scaffolding or other work at height equipment unless it has been designed for the additional wind loads.

4.7.2  Lightning and earthing

During the possibility of a thunderstorm, no work shall be executed at a height where a person can be exposed to lightning.

Management must consider the requirements for earthing work at height equipment (e.g. scaffolding), if the equipment can undermine an existing lightning protection system, or if determined as required because of high voltage electricity equipment in the vicinity (see Appendix A performance Standards).

4.7.3  Wet Surfaces / Structures

When overhead work is required on wet structures or their means of access, those facilities shall be inspected by the job supervisor and Company Site Representative prior to starting the work.

Where such facilities become wet during the operation, work may continue only in order to make the structures safe. Work shall then cease until inspection by the job supervisor and Company Site Representative confirms that it is safe to continue.
4.7.4 Affects of Working in hot and humid conditions (welfare)

Heat Stress is a major PDO and Contractor health and safety hazard. Analysis of the Lost Time Injury (LTI) statistics shows that incidents and injuries increase leading up to and during the summer period and decline during the cooler months. During summer months, the ambient temperature in the interior can exceed 50°C and the relative humidity in coastal areas regularly exceeds 70% from June to September.

Hazard registers and specific HSE Plans must capture all HSE measures for the management of working at height activities in these conditions. In addition Tool Box meetings must include the identification of the hazards e.g. hot metal tubes, as well as the relevant control measures.

It is important for all supervisors to consider this hazard when preparing for work involving outdoor tasks, radiant sources (machinery) and the fitness and acclimatisation of the workforce.

All working at height activities, as part of the site planning, must include arrangements for hydration centres i.e. drinking stations as well as ensure that the work force are provided with appropriate toilet and washroom facilities.

4.7.5 Toilet and washroom facilities

The requirements for toilet and wash facilities, specifically for work at height conditions, must be established at the planning stage. It is foreseeable that persons, in some cases, will need to travel long horizontal and vertical distances to rest areas. The wash room facilities are to be considered on a case by case basis.

4.8 Night Work or Poor Visibility

Any work at height which must be carried out during the hours of darkness will be treated as the ‘exception’ and shall be subject to written authorisation from the Company Site Representative. Such authorisation shall include the required standard of illumination (task lighting). Erection and / or dismantling of scaffolding during the hours of darkness is only permitted in cases of extreme urgency and when no other practicable alternative can be identified (e.g. high risk work in busy areas during quieter hours).

Lighting levels need to be considered for all work at height activities and where necessary suitable task lighting shall be provided.

Where visibility becomes adversely restricted due to fog, mist or steam clouds then work at height must cease until normal visibility resumes.
4.9 **Fragile Surfaces**

The risk of falling through fragile surfaces (e.g. roofing materials) must be considered as part of the planning process. Where a potentially fragile surface has been identified the following hierarchy of controls shall be considered:

1. Avoid access on or near the fragile surface.
2. Prevent falls by providing coverings, guardrails or similar barriers.
3. Arrest falls through fragile surfaces e.g. working platforms beneath or safety netting.

When designing or specifying materials ensure that they can support all foreseeable loads. Where fragile materials have been identified, post permanent *warning signs* on buildings and structures to warn others.

4.10 **Emergency Planning and Rescue**

Planning for work at height and the erection, use, alteration and dismantling of work at height equipment must consider arrangements for emergency and rescue.

Emergency and rescue plans must be considered in the planning, HEMP risk assessment, method statement and permit to work processes. This extends to:

- temporary access and egress routes,
- restrictions/obstructions to existing emergency access and egress routes etc. by temporary work at height equipment (e.g. emergency access road blocked by a MEWP or scaffolding).
- the type and specification of emergency egress/escape equipment,
- rescue and recovery of workers at height (mobile plant operators, scaffolders, abseilers etc.),
- rescue and recovery of persons suspended in personal fall protection equipment.

See further information for the emergency and rescue planning in relevant sections of this specification (e.g. section 5.8 Scaffolder Rescue).
5. Scaffolding

The purpose of this section is to provide a minimum general specification for access and special scaffolds and applies to all maintenance, engineering and construction activities for and behalf of PDO. It has been prepared to be used as a minimum performance standard for the planning, procurement and management of scaffolding. This is a general specification and may be supplemented by contract specific requirements that together will form the ‘client’s brief’ when procuring scaffolding from contractors and specialist scaffolding sub-contractors.

This document is not exhaustive, but sets out the minimum requirements and identifies acceptable work equipment and competence requirements for work on all PDO premises, installations and facilities. It is also intended to help ensure compliance with legislation.

Detailed external performance standards and guidance documents are appended to this document (See Appendix A Performance Standards) which forms part of this specification.

5.1 Scaffolding Requests, Surveys and Design Input

To request scaffolding to be erected, altered or dismantled a Scaffold Request Form should be completed and submitted to the scaffolding manager/contractor, as part of the planning process (see template in Appendix D).

Where possible, a survey of the workplace should be undertaken with a Scaffolding Management Representative (e.g. Scaffolding Manager, Supervisor, Planner, and Estimator/Surveyor) and the Scaffold Requestor or other representative. The purpose of the survey is to:

- Complete an initial risk assessment (HEMP), including consideration for existing hazards, controls, permits etc.
- Establish the scope and dimensions of the scaffolding required.
- The nature of the work, likely loading, numbers of personnel, dimensions etc.
- Assist in the selection of the most suitable access equipment.
- Determine the level of design input required.
- Assess the location and work environment for access routes, handling and storage of materials, ground/surface conditions, supporting structures etc.

The Scaffolding Management Representative should record the initial risk assessment (HEMP) and survey. This information should be retained as a record with the Scaffold Request Form (this may be stored electronically).
For guidance on whether design input is required and the level of design checking required refer to Appendix C - Scaffolding Design Matrix.

The Scaffolding Management Representative must consider ground conditions, other surfaces or structures that will support and/or stabilise scaffolding structures for suitability at the planning stage. Where necessary the Scaffolding Management Representative should seek design advice from PDO or the client’s representative to ensure that the foreseeable loadings can be sustained. Specialist surveys, calculations or testing may be required to determine the suitability of foundations, ties or suspension points.
The Scaffold Request must include details of intended use and loading of the scaffold so the correct specification and load rating can be established. For special scaffolds such as loading bays or lifting frames, calculations may be required by a competent engineer to determine the load to be applied to the scaffolding, if the mass of the equipment to be loaded on the scaffold is not known (e.g. old plant or equipment to be supported on scaffolding to calculate the actual load).

5.1.1 Scaffold Design Management

Contractors undertaking scaffolding operations must be able to demonstrate effective arrangements for managing scaffolding design. These arrangements shall include:

- Management and Supervision to demonstrate knowledge of structures requiring design engineering.

- Adequate and competent scaffold design engineering resources. Engineers must have a relevant engineering qualification, experience and knowledge of this specification and supporting guidance, scaffolding codes, technical performance standards, industry standards etc.

- Design Engineers must be able to demonstrate that an independent engineer has checked the design and calculations, before issuing. These checks may be carried out in-house, unless specified as categories 2 or 3 in table 1 and the design matrix (Appendix C) or otherwise requested by PDO as requiring third party design checking. In which case the ‘Checker’ must be completely independent and demonstrate similar levels of competence and professional indemnity, if necessary. A design check certificate should be completed by the Design Checker and issued with the drawings and calculations. An example of an acceptable design check certificate is appended to this specification in Appendix E.

- A system for controlling drawings as ‘Preliminary’, ‘For approval’ and ‘Working Drawing’, and must also include a unique drawing number with a method for identifying any subsequent revisions.

- Design risk assessments undertaken by the Engineer and information relating to any significant residual hazards or hazardous work sequences, and the recommended control measures are clearly highlighted on the drawings.

- Selection of competent Scaffolders for designed scaffolding and appropriate levels of competent supervision (see Appendix B Training Standards).
The Contractor must have a system for recording the issuing of drawings to the scaffold gang. Evidence of such records must be kept and made available for examination by PDO if requested.

A system for managing significant variations or alterations from the design and obtaining further design input, where the work must not proceed until variations to the design have been made and where necessary checked.

Inspection and commissioning arrangements to verify the scaffold has been constructed in accordance with the design. The Scaffold Inspector must have sight of the drawing in order to carry out the commissioning and handover inspection.

5.2 Loadings and Duty

All loads that are likely to be imposed on any scaffolding structure must be considered as part of the planning process (including materials, personnel, wind, impact etc.) and the required duty determined.

The Scaffold Request Form must include details of intended use and any foreseen loading requirements to enable the Scaffolding Contractor to determine the correct scaffold configuration and obtain the necessary design input, if required. The Requestor should ensure that the weight of any materials or equipment to be loaded on a scaffold is established and where necessary calculated by a Competent Engineer.

Also the nature in which the scaffold is to be loaded needs to be considered by the Requestor and communicated to the Scaffolding Contractor.

BS EN 12811 details the various classifications (or duty) for scaffolding structures.

Table 2 (below) is provided as a guide for determining the load classification (or duty) of access and working scaffolds for PDO.

The maximum loading or duty of a scaffold must be displayed on the scaffold. General access and working scaffolds must display the loading information at each point of access, usually on the scaffold tagging system (see Section 5.13 Scaffold Signs and Tagging Systems).

Special purpose scaffolds designed for specific loading such as lifting frames and loading towers must clearly display the maximum load and loading information relating to any restriction of how a scaffold structure may be loaded (E.g. maximum loading, uniformly distributed, point loading etc.).

Do not fix lifting or rigging equipment (e.g. chain blocks or cable pullers) to scaffolding unless it has been designed for the purpose or approved by an Engineer.
Never exceed the specified maximum loading of any scaffold or load scaffolding to give rise to the risk of collapse. This includes the storage of scaffolding materials during erection, alteration or dismantling.

Table 2. PDO - Guidelines for access and working scaffold load classes¹

<table>
<thead>
<tr>
<th>Duty</th>
<th>BS EN 12811 Classification</th>
<th>Uniformly distributed load on platform Kg/m² (kN/m²)</th>
<th>Typical Loading Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very light duty</td>
<td>Class 1</td>
<td>75 (0.75)</td>
<td>Inspection, painting, light cleaning or access. One worker per m²</td>
</tr>
<tr>
<td>Light duty</td>
<td>Class 2</td>
<td>150 (1.50)</td>
<td>Light maintenance work, painting, cleaning or access. Two workers per m²</td>
</tr>
<tr>
<td>General purpose</td>
<td>Class 3</td>
<td>200 (2.00)</td>
<td>General maintenance work or access. Two workers + 50Kg of equipment and materials per m²</td>
</tr>
<tr>
<td>Heavy Duty</td>
<td>Class 4</td>
<td>300 (3.00)</td>
<td>Heavier maintenance work or access. Two workers + 100Kg of equipment and materials per m²</td>
</tr>
<tr>
<td>Special purpose*</td>
<td>Class 5-6</td>
<td>As per design</td>
<td>All special purpose scaffolds MUST be designed!</td>
</tr>
</tbody>
</table>

Notes to table:
¹Guidance only and must be read in conjunction with the technical standards in Appendix A – BS EN 12811, NASC TG20 table 1
*Design engineering and calculations required.
5.3 Scaffolding Materials and Equipment

All scaffolding materials must be provided in accordance with the Performance Standards specified in Appendix A, and must be in serviceable condition. They must be clean and free from contamination.

Note that Aluminium alloy shall not be used in any type of work at height equipment in designated Zone 0 or Zone 1 hazardous areas.

Scaffolding Contractors must demonstrate a systematic approach to the inspection, servicing and repair of scaffolding materials to ensure they remain in serviceable condition. Only authorised and competent persons are permitted to carry out repairs.

Scaffolding material must not be repaired or serviced on site unless authorised to do so by PDO, and in which case must be carried out in a designated area and be subject to environmental aspects and impacts assessment.

The highest standards of housekeeping must be maintained on site at all times.

Temporary storage areas must be agreed with PDO or appointed representative, and must be considered as part of the initial risk assessment. Only the quantities of scaffolding materials required to service the specific task are permitted to be stored on site.

Only materials currently being used to construct or adapt scaffolding or immediately following dismantling may be stored on the facility outside of the designated storage area. In which case materials must be stored in a safe manner, so not to present a tripping hazard, obstruct access or inhibit other operations at the facility. Where possible, materials should be stored within the designated work area which is clearly marked with suitable signs and barriers.

Storage equipment (e.g. Pallet or skid, bins and scaffold racking) must be design and fit for purpose and maintained in good order. Safe access must be provided for large storage racks including ladders and guardrails. Materials must be stored securely so that they cannot fall, collapse or overturn, including during transportation and handling by mechanical equipment.

Following dismantle materials must be removed as soon as possible. Following scaffolding erection, alteration and dismantling, the Scaffolding Contractor must inspect the area to ensure all excess materials are removed to the designated storage area.

Materials must not be stored upright unless they are to be immediately handled. In which case they must be positioned so that they are secure and
cannot accidentally fall. Materials stored at height within a scaffold must be positioned and secured so that they cannot fall or become windblown.

The Scaffolding Contractor is responsible for the removal from site and responsible disposal of all waste created by the scaffolding operations.

All scaffolding operatives, including Labourers must be trained in the safe handling of scaffolding materials (see section 5.6 Scaffolding Training and Competence) and the use of ancillary handling equipment such as handlines, gin wheels and ropes etc.

Gin wheels and ropes are classed as lifting equipment and must be inspected and maintained in accordance with PR1708 and PR1709. The minimum load rating must be 50Kg. The load rating must be clearly displayed. The maximum projection from the scaffold is 750mm. The tube supporting the gin wheel must be fixed with right angle couplers to a minimum of two standards or ledgers. Joints in the standards or ledgers must be made with a sleeve coupler or a bolted joint in the case of system scaffolding. Only ring type gin wheels may be used that are secured with a right angle coupler each side.

![Fig. 6 Example of a Gin Wheel](image)

### 5.4 Scaffolding Working Platforms

All scaffolding working platforms must be provided in accordance with the minimum requirements stated in section 4.2 Working Platforms, above. The technical standards in Appendix A provide specifications for dimensions, strength and stability. BS EN 12811 and TG20 specify minimum platform widths and bay lengths for scaffolding depending upon the classification or duty required.
Scaffold requests must identify the intended use of the scaffolding so that the Scaffolding Contractor can provide working platforms of sufficient dimensions.

Working platforms, where possible considering any workplace restrictions, must be of sufficient dimensions for; the planned work to be carried out, allowing safe access and egress, space for working, use of work equipment and storage of materials.

5.4.1 Scaffolding Guardrails, toeboards or similar barriers

All guardrails, toeboards or similar barriers must be secured and supported so that they cannot become accidentally displaced.

The top guardrail or other similar means of protection (e.g. guardrail frames) must be at least 950mm above the working platform. An intermediate guardrail or similar barrier must be positioned so that there is no gap greater than 470mm Onshore and 250mm Offshore between guardrails, toeboards or other similar barriers. Guardrails must be supported by a load bearing coupler at each standard or upright, with exception of returns and stop-ends where a single coupler may be used.

Toeboards must be fixed to all working platforms where there is a risk of people or materials falling. Toeboards must be a minimum of 150mm high. Gaps between toeboards and working platforms must be minimised and must not be greater than 25mm where materials could fall. All toeboards must be fixed at a minimum of two positions, so that they are adequately secured.

There should be no lateral gaps between guardrails, toeboards or similar barriers except where access and egress is required e.g. external stairway or ladder to access a scaffold working platform. In which case, other means of protection must be considered to protect against falls of people or materials through such gaps (See section 5.10 Scaffolding access and egress) e.g. ladder safety gates.

Guardrails, toeboards or similar barriers may only be removed by competent Scaffolders, and only for the shortest time necessary to perform a particular task, and must be reinstated as soon as practicable. While guardrails, toeboards or similar barriers have been removed suitable compensatory fall protection measures must be taken (e.g. use of personal fall protection equipment such as safety harnesses). Also these areas must be then designated as ‘Danger Areas‘ with suitable warning signs displayed and physical means to restrict access.

5.4.2 Decking & boarding
Scaffold working platforms should be fully boarded where practicable without gaps where people or materials could fall and injure someone. However some gaps are permitted and are deemed reasonable:

- 50mm gaps created by standards protruding through working platforms, providing suitable compensatory measures have been taken to protect people below from being struck by falling objects (see section 5.9 Falling Object Protection). Otherwise such gaps must be covered.

- Service gaps – these are gaps between the working platform and the plant, equipment, façade or other structure to be accessed. A service gap is only permitted if it is a minimum dimension to allow the performance of a particular task. The maximum permitted gap must be no greater than 225mm and is only permitted providing suitable compensatory measures have been taken to protect people below from being struck by falling objects (see section 5.9 Falling Object Protection). Where a service gap is required greater than 225mm, then the workplace must be then designated as a ‘Danger Area’ with suitable warning signs displayed and physical means to restrict access. Where there is a gap greater than 225mm then suitable compensatory measures must be taken to prevent/protect against people falling (e.g. a system of work using Personal Fall Protection Equipment).

- Ladder traps created by internal ladders used for access and egress between lifts of the scaffolding (See section 5.6 Methods of Access and Egress).

The notching of boards should be avoided wherever possible. Notched boards, where unavoidable, should be supported with a transom either side of the notch, the maximum permitted notch size is observed as stated in NASC Guide TG13 and the minimum and maximum overhangs observed as if the notch were the ends of two boards.

All proprietary system scaffold decks must be fixed and secured in accordance with the manufacturer’s recommendations. Scaffold boards must conform to BS 2482 - The specification for timber scaffold boards. All scaffold boards must be correctly supported by transoms in accordance with NASC Guidance TG20.

All 3.9m long scaffold boards must be supported by at least 4 transoms. Boards less than 2.7m must be supported by a minimum of 3 transoms. All short scaffold boards less than 2.13m long should not be used unless they are fixed down to prevent them becoming accidentally displaced. Scaffold boards less than 1.6m may be
supported by 2 transoms, providing they are secured at both end of each board.

Scaffold platforms (with the exception of returns) should be constructed to avoid the need for lapped boards where practicable. Where lapping of boards cannot be avoided, then the maximum spans between supporting boards and the minimum and maximum overhangs for overlapping must be observed. All lapped boards must be secured to prevent accidental displacement.

Inside boards must be secured to prevent movement and accidental displacement using a minimum of two single couplers per board or other similar fixing method.

All offshore scaffolds, and onshore exposed to wind impact and the risk of wind uplift, must have the platform boards, battens or decking secured to prevent displacement. 6mm rope, steel wire lashing or proprietary couplers should be used for tying down scaffold boards. Boards that require fixing down must be secured at two points. Lapping tubes may only be used for securing down boards on scaffolders temporary working platforms or for emergency use only.

5.5 Scaffolding Stability and Integrity

All scaffolding must be designed and calculated, or constructed in accordance with the standard configurations stated in the Technical Standards (Appendix A), ensuring they are suitably secure and stable for their intended use and cannot collapse or overturn (wholly or partly).

Scaffolds must not be used or loaded in any way that it has not been design. Scaffold users must not alter or interfere with scaffolding that may affect its strength or stability.

Scaffolders must ensure that stability measures (e.g. ties, ground rakers, buttressing, guys and anchors, counterweights or ballast etc.) are installed and removed progressively during erection, altering and dismantling, including the use of temporary (or dummy) measures for the purpose of stabilising structures for erecting, altering or dismantling.

5.5.1 Scaffold Ties

Where scaffolds require ties for stability they must be provided in accordance with the technical standards (Appendix A) or as specified by the scaffold design.

Positive ties (such as through ties, box ties, girder clamps etc.) should be used in preference to other forms of tie (e.g. pressure, reveal or lip ties).
Scaffolding Contractors must ensure that the structure or building that scaffolding is tied to is suitable. Ties must not be made to any process plant equipment such as pipes, cable trays, or other non-structural elements, including permanent handrails and posts (unless confirmed as suitable by PDO).

Where ties cannot be achieved alternative stability measures must be provided e.g. special bracing configurations, buttressing, kentledge etc. see section 5.1.1 Scaffold Design Management.

If masonry anchors are used to tie scaffolding they must be used in accordance with the NASC Technical Guidance TG4 ‘Anchorage Systems for Scaffolding’.

Where ground anchors are required for stability, or any ground breaking is deemed necessary as part of the scaffold erection a buried services survey shall be undertaken in accordance with PDO PR1002 Operations Excavation Procedure and HSG47 Avoiding Danger from Underground Services, by a suitably trained and competent person.

5.5.2 Methods of Construction

All scaffolding structures must be erected in accordance with the Performance Standards stated in Appendix A, manufacturers’ instructions or the scaffold design drawing.

For offshore scaffolding with tubes and fittings where transoms and board bearers are fixed with single couplers, supplementary transoms must be fitted below the working platforms at every line of standards (also known as Aberdeen Transoms see figure 6 below).

**Fig. 7** Supplementary Transom for all offshore scaffolds
5.5.3 Bracing

The frequency of façade bracing must be in accordance with the current NASC guidance TG20 for tube and fitting scaffolds, manufacturers’ instructions for proprietary system scaffolding or as specified by the scaffold design.

Ledger bracing must be retained for independent tied access scaffolds in tube and fitting, unless proprietary transom units are used which facilitate ledger bracing to be omitted to allow clear access, providing they are used in accordance with the manufacturer’s instructions.

Otherwise all other forms bracing must conform to the performance standards specified in Appendix A Technical Standards and Guidance.

5.5.4 Ground Conditions

The ground/base conditions must be considered as part of site inspection and risk assessment. The scaffolding contractor should advise the PDO representative if they suspect that the ground/base condition is unsuitable to support the loads likely to be imposed by the scaffolding. The scaffolding contractor should provide loading information (i.e. leg loads) to enable PDO to assess the base conditions and if necessary carry out any preparation works.

5.6 Scaffolding Training & Competence

All personnel employed for the purpose of erecting, altering or dismantling scaffolding must:

- meet the requirements of Appendix B Training Standards Requirements
- Hold a PDO recognised scaffolding training and assessment scheme to appropriate level or grade, considering the nature of scaffolding to be undertaken.
- Complete a skills test prior to commencing work at PDO and recorded on their PDO Passport.
- All inexperienced, trainee scaffolders and labourers must work under the supervision of a competent Basic, Intermediate, Advanced Scaffolder or Supervisor.

Scaffolding Operatives (or their employers) must be able to demonstrate evidence of training achievement in accordance with a PDO recognised training scheme (see Appendix B Training Standards. Where possible scaffolding operatives should carry their scaffolder’s record card or the contractors must be able to provide evidence of competence upon request (the record card is a credit card size record card with personal details including photograph of the holder see GU363 for guidance and further information).
Scaffolding operatives who use proprietary system scaffolding or other access equipment must be able to demonstrate specific training in the use that product or recognised PDO training course.

Each scaffolding working party (gang) must have the appropriate balance of competence depending upon the complexity of the work undertaken e.g. a Scaffolder or Advanced Scaffolder per gang of two to four operatives. The more complex or hazardous the work, the greater the competence level of the scaffolding operatives is required. Generally for offshore scaffolding operations each gang should be lead by an Advanced Scaffolder.

Note that, with exception of the minor tasks (low risk), most practical scaffolding operations require at least two scaffolding operatives per gang. Also, Labourers are not permitted to work at height unless the same level of protection for a completed scaffold is provided (e.g. safe access and working platforms). Trainee Scaffolders are only permitted to work at height under direct supervision and direction of a competent Basic, Intermediate or Advanced Scaffolder.

Scaffolding Contractors must demonstrate appropriate levels of supervision depending upon the complexity of the work and the number of operatives. For example:

- Each working party (gang) must have a nominated Chargehand Scaffolder (normally the most competent member of the gang).
- Where more than one gang is working on a task, one of the Chargehands must be nominated as a Working Foreman.
- Where several gangs are working on a task a Foreman (non-working) or Supervisor must be nominated.
- In all cases there must be a nominated Scaffolding Supervisor (this may be a full-time or visiting role depending upon the complexity, hazardous nature or volume of work).

In addition, all scaffolding support staff (e.g. yard labourers, drivers etc.) must have a nominated Supervisor.

All personnel who supervise activities that include the use of scaffolding and access equipment, including all HSE Advisors, shall complete the PDO LX 044 ‘Scaffolding Appreciation’ training course. Personnel who meet the requirements of a Scaffold Inspector or Scaffolding Supervisor in Appendix A do not need to complete this course. Successful completion of this course does not, however, qualify personnel as Scaffold Inspectors or for erection, altering or dismantling.

Contractors engaged in scaffolding operations must demonstrate a suitable management and supervisory resources and organisational structure. Each contract, project or work package must have a nominated Manager(s) responsible for the scaffolding operations at PDO.
The identification of personnel and their nominated positions/roles must be clearly determined in the risk assessment and method statement for the work.

5.7 Fall Prevention and Protection with Scaffolding

All working platforms and methods of access and egress must meet the requirements of this specification.

Scaffolders must comply fully with NASC safety guidance SG4 (current edition) Preventing falls in scaffolding. Where appropriate, collective fall prevention and protection measures (e.g. Guardrails) must take priority over personal protection (e.g. safety harnesses), as required by the hierarchy of controls in section 4 of this specification.

All scaffolding operatives who work at height must be able to demonstrate training in accordance with the current edition of SG4 and refresher training undertaken at least every 5 years as a minimum. Note this training may form part of a PDO recognised training scheme (see Appendix B Training Standards).

5.8 Scaffolder Rescue

Rescue planning must be included in the scaffolding risk assessment HEMP and/or method statement. The rescue plan must be prepared in accordance with NASC safety guidance SG19 (current edition). Where specialist rescue equipment has been provided all scaffolders must be trained in its use, the equipment must be readily available at the workplace and maintained in good order.

5.9 Falling Object Protection

The Scaffold Request and risk assessment/method statement must consider the risk of falling objects. Adequate controls must be established to prevent objects falling from height, or if objects cannot be prevented from falling then measures to protect people from injury, and plant or property from damage must be taken.

Where a risk of falling objects from scaffolding has been identified, including the risk of scaffolding materials falling during scaffolding erection, altering and dismantling, the following prevention and protection measures should be considered:

- Toe-boards, brick-guards, debris netting or solid sheeting.
- Barriers and warning signs to segregate danger areas and prevent access onto, through or near scaffolds where there is a risk of falling objects.
Pedestrian gantries or access openings through scaffolds with protection crash-decks. Note crash deck protection should be risk assessed and designed considering the nature of potential falling objects. As a minimum all crash-deck protection for light objects should consist of a double layer of scaffold boards with heavy-duty impervious sheeting sandwiched between.

Scaffold fans to protect pedestrian and vehicle access routes adjacent to scaffolds where there exists a risk of falling objects. Note: protection fans must be risk assessed and constructed in accordance NASC TG20.

By using close-boarded working platforms without gaps where objects could fall.

All scaffolding materials used at height must be handled in a controlled manner and stored safely. Care must be taken by scaffolders to prevent all objects falling when working at height.

Scaffolders are not permitted to work above others where there would be a risk of materials falling liable to cause injury. Scaffolding operations must be clearly identified by using suitable signs and segregated with barriers (or other suitable means) to restrict access by unauthorised persons (See section 4.6 Danger Areas).

Scaffolder’s hand tools must be carried in tool belts with suitable holsters (known as ‘frogs’).

5.10 Scaffolding Access & Egress

Type of access and egress to scaffolding will be subject to the hierarchy of access specified in NASC TG20 & SG25 (see below). Special consideration needs to be given for the type and frequency of access and egress equipment in an emergency as part of the risk assessment.

Hierarchy of Access and Egress

1. Stairways
2. Ladder access bays with single lift ladder(s)
3. Ladder access bays with multiple lift ladder(s)
4. Internal ladder access with single lift ladder(s) and protected ladder traps*
5. Internal ladders access with multiple lift ladder(s) and protected ladder traps*
6. External ladder access using a safety gate*

*Note ladder traps and lateral gaps in guardrails for access and egress must be protected where there is a risk of a fall. These access positions should be
located, wherever possible, away from the main work area on the platform(s).

As a basic principle stairways shall be used where practicable. When ladders are used, shorter ladders should be provided servicing one lift to reduce the potential fall distance. External ladders to the lower lifts must be provided with ladders gates and should not extended more than 2 lifts in height.

In addition, EN 12811 recommends that stairways should be considered for extensive work and passenger hoists for taller scaffolds. Note that where mechanical passenger hoists are used, then an alternative non-mechanical method of access and egress should also be provided, for use in case of emergency or mechanical breakdown.

The scaffold request must provide information (if known) regarding the nature of intended use, the duration the scaffold is likely to be erected and the number of people like to be using the scaffold at any time. This information will assist the Scaffolding Contractor to recommend the most suitable method of access.

Climbing scaffold structures (steelwork) is not permitted, except when necessary by Scaffolders while erecting, altering or dismantling scaffolding.

5.10.1 Stairways

Stairway access is considered safer with less risk of falling compared with using a ladder. They also provide significant benefits to the user as they enable light goods to be carried (providing a handhold is maintained) and ease of egress from height in an emergency.

The following guidelines have been established to help justify a stairway(s) as the selected method of access:

- Is there sufficient space to allow the provision of a stairway within the workplace?
- Is the work of short duration or infrequent use to justify the additional time (and cost) of providing a stairway?
- Where there exists a significant risk that could be eliminated or controlled by the use of a Stairway, particularly in high risk areas for emergency egress (e.g. H2S and fire zones).
- Planning for emergencies while working at height. How would a casualty be safely recovered from height or emergency egress using escape kits or SCBA?
- Handling of suitable materials and work equipment such as hand-tools.
5.10.2 Ladders

This section only applies to straight ladders (complying with BS EN 131) provided for access to or within scaffold structures. Ladders shall wherever possible meet the following requirements:

- Based on a firm level surface with both stiles supported.
- Supported by a minimum of two support transoms (ladder stays top and bottom or similar arrangement) and secured.
- Have intermediate supports at approximately every 3m.
- Ensuring that support transoms (ladder stays) do not obstruct the rung and present a trip hazard.
- Both stiles are secured at each support transom using a suitable square lashing or proprietary clamp. Scaffold couplers should not be used to tie ladders unless the ladder is designed for that purpose.
- Ladders are the correct length and extend past the landing point by approximately 1m (or five rungs), unless a suitable alternative handhold is available.
- Ladders should be set at an angle of 75 degrees (or 4:1), where possible. Note that steeper or vertical ladders are permitted where there is restricted space. However, there must be a rest platform at least every 5m.

Ladder trap openings and lateral gaps in guardrails and toeboards at access points must be kept as small as ergonomically practicable, but allow safe access and egress. According to BS EN 12811 opening should be a minimum dimension of 450mm x 600mm. Measures must be taken to protect scaffold users from falling through ladder access gaps in guardrails and working platform e.g. ladder safety gates or ladder trap doors.

Continuous main (top) guardrails for external ladder accesses are not permitted.

5.11 Interface with follow workers and others

5.11.1 Scaffold User Protection

Protruding threads on fittings, and tube ends should be protected to avoid injury (e.g. plastic caps) at access and egress points and on working platforms only where there is a risk of snagging and injury.
Reduced head clearance and obstructions protruding in the access way presenting a tripping or snagging hazard that cannot be avoided must be highlighted and/or protected.

Scaffolds erected in or adjacent to pedestrian routes should be constructed with adequate clearance, standards highlighted or protected with high-density foam (or similar), fittings protected, and adequate lighting. Where access is permitted through a scaffold a pedestrian lift should be provided (max 2.7m high) to allow sufficient head clearance.

Suitable falling object protection such as, netting, sheeting, crash decks or protection fans may be required in accordance with NASC guidance TG20 or system scaffolding manufacturer’s recommendations.

The tops of standards that protrude through a working platform (known as hems or toppers), such as the inside standards on a birdcage access scaffold, must be sized so that they are flush with working platform or be extended to a height of 1m. Therefore they will not present a tripping hazard for users of the working platform.

5.11.2 Interface with vehicles and mobile plant

Scaffolds erected in or adjacent to site roads or access ways for vehicles or mobile plant may also need protection measures.

Suitable traffic management controls may be required including signs and cones or barriers.

Lighting may also be required to highlight the scaffold to vehicles and mobile plant.

Where there is a risk of impact damage from vehicles or mobile plant - that may affect the stability of a scaffold - then baulks of timber or proprietary traffic barrier systems may be required.

5.12 Scaffold Inspection

All scaffolds and ancillary scaffolding structures (such as barriers and guard-rails) must be inspected in accordance with requirements of this specification.

The PDO representative must identify which of the three options is required for ensuring scaffold inspections are undertaken:

1. Inspections carried out by the Contractor, providing the scaffolding (part of the contract).
2. Appoint an independent inspection company

3. Nominate a PDO employee who has been deemed competent and trained to do so.

In all cases scaffold inspections shall be carried out in accordance with the following schedule:

- Before use, known as the ‘commissioning or handing over inspection’.
- At intervals not exceeding seven days until the structure is dismantled.
- When notified of an exceptional event liable to jeopardise the safety of the scaffolding (e.g. high winds, damage, overloading etc.)
- Following any substantial alteration and before the scaffold is reinstated for use.

Only an appointed competent person, having the relevant experience and qualifications, must carry out scaffold inspections. Scaffold Inspectors must complete one of the PDO recognised scaffolding inspection training courses listed in Appendix B Training Standards.

The Scaffold Inspector must be independent to the scaffolding gang who erected the scaffolding. However, for some drilling, wire line and offshore operations the Chargehand Scaffolder may carry out the inspections providing they are an Advanced Scaffolder.

The Scaffold Inspector must have sufficient independence of commercial or productivity pressures so not to be adversely influenced and has the authority to condemn and prohibit use of a scaffold if he feels it is unsafe.

On completion of the commissioning inspection, before use is permitted or following substantial alteration, the scaffold tag insert must be completed.

The Scaffold Inspector must complete the Scaffold Tagging System inserts and the scaffold inspection report, and maintain a register for all scaffold inspections. The scaffold inspection reports may be held electronically.

The scaffold inspection report must contain the following information (see Appendix F - Sample Scaffold Inspection Report):

- The name and address of the person for whom the inspection was carried out.
- The location of the work equipment inspected.
- A description of the work equipment.
The date and time of the inspection.

Details of any matter identified that could give rise to a risk to the health or safety of any person.

Details of any action taken as a result of any matter identified above.

Details of any further action considered necessary

The name and position of the person making the report.

The scaffold inspection reports must be completed by the Scaffold Inspector within the same working shift that the inspection was carried out and issued to the person responsible for the scaffolding within 24 hours. The reports must be kept on site for the life of the scaffold and for at least 3 months after dismantling.

Where inspections are undertaken by a Contractor all records of inspection must be kept in archive for a period of at least 3 years after the scaffold has been dismantled. These archive records must be made available to PDO upon request and presented within 1 week of the request.

5.12 Incomplete Scaffolds and Danger Areas

While a scaffold is not available for use (out of service), including scaffolding operations for erecting, altering and dismantling, clear prohibition and warning signs must be displayed and suitable physical means to prevent access on or near the scaffold and scaffolding operations (see section 4.6 Danger Areas).

When starting to erect all scaffolding structures, a scaffold tag holder (or equivalent sign) must be fixed to the structure as soon as practicable, during the erection process, displaying the prohibition symbol and warning 'Scaffold Incomplete do not use'. (See section 5.13 Scaffold Signs and Tagging Systems.)

Any scaffold structure, or part of (e.g. during alterations to a scaffold and part of the structure remains in use) and a workplace where scaffolding operations are being undertaken, where there exists a risk of a fall or a risk of persons being struck by a falling object, shall be defined as a 'danger area'. Where a danger area has been identified, access to such danger areas must be restricted to authorised Scaffolding Operatives only and suitable measures taken to prevent access to the danger area e.g. guardrails or other barriers and warning signs (see section 4.6 Danger Areas).
5.13 **Scaffold Signs & Tagging Systems**

Clear user information regarding the intended use, duty, status and residual hazards relating to the scaffolding must be provided.

A scaffold tagging system shall be used on all scaffolding structures (e.g. Scafftag or similar). The 'red' do not use sign should be displayed as soon as possible during construction, in addition to any other scaffold incomplete signs required. The tag holders should be positioned at each access point.

Following the commissioning inspection a tag insert must be completed with the relevant data and inserted in the holder.

If, during use or through the course of an inspection, a defect or hazard is identified then the scaffold tag insert should be removed to display the prohibition 'do not use' sign. The person responsible for the scaffold concerned must be notified directly and the insert returned to them. Note that the Scafftag holder showing the red prohibition sign can only be used as an interim arrangement until suitable physical measures to restrict access can be taken.

Scaffolding loading bays/towers and lifting frames must display a sign clearly stating the Maximum Load Rating and any other loading information (e.g. uniformly distributed load, rigging point for lifting equipment etc.).

All signs and tags must be written in 'English' as the international language. However multi-language signs may be used (e.g. English and Arabic) but English must be prominent.

Examples of standard sign designs are appended to this specification in Appendix G.

5.14 **Lightweight Mobile Access Towers (MAT’s) (January 1st 2014)**

This section covers the use of mobile access towers (MAT’s). These are lightweight towers that can be erected by the users and used for a range of light-duty tasks e.g. mechanical and electrical installation, painting, cleaning, general maintenance tasks etc. MAT’s are manufactured in aluminium and glass reinforced plastic (GRP).

Note that aluminium alloy shall not be used in any type of work at height equipment in designated Zone 0 or Zone 1 hazardous areas.

The use of a MAT must be subject to a risk assessment and method statement.

Only equipment that meets the minimum specifications stated in Appendix A may be used at PDO. The main performance standard that MAT’s must conform to BS EN 1004: 2004 - Mobile access and working towers made of
prefabricated elements – Materials, dimensions, design loads, safety and performance requirements.

All users must hold a current PASMA certificate/card or other equivalent recognised training course (see Appendix [x] Training and Competence).

All MAT’s must be constructed and used in accordance with the PASMA Code of Practice and manufacturer’s instructions.

MAT’s must be formally inspected before use, after alteration and every 7 days. Note that inspections of mobile towers do not need to be formally recorded after each move; however they should be visually inspected by the user before each use. If MAT’s are dismantled and re-erected then they must be inspected before use and every 7 days in accordance with section 5.12 Scaffold Inspection.

A scaffold tagging system must be used and completed following each inspection (e.g. Scafftag or equivalent). Additional inspections will be required following any event that may jeopardise the safe use of a MAT (e.g. high winds, vehicle impact, interference, overloading etc.).

The maximum permitted height of a MAT at PDO is 8m outdoors and 12m indoors unless otherwise specified by the manufacturer.

To prevent falls whilst erecting, altering or dismantling a MAT, an advanced guardrail system or the PASMA prescribed ‘Through the Trap’ (or 3T) technique must be used.
6. **Portable Ladders and other Low-level Access Equipment (non-mechanical)**

The section applies to the use of non-mechanical portable access equipment used by various trades such as ladders, steps, step ladders, hop-ups, trestles, podiums, low-level access towers etc.

All portable ladders and other low-level access equipment must be designed for industrial use and conform to the performance standards stated in Appendix A of this specification. Home-made or improvised access equipment is strictly prohibited for use at PDO.

The use of stilts for work at height as low-level access equipment is not permitted at PDO.

Note that aluminium alloy shall not be used in any type of work at height equipment in designated Zone 0 or Zone 1 hazardous areas.

Portable ladders and other low-level access equipment must be inspected before use and be subject to a formal system of periodic inspections. As a minimum all portable ladders and other low-level access equipment must be subject to:

- Each piece of equipment identified with a unique identification number.
- A register to record the inspections of each piece of equipment.
- An inspection by a competent person at least every 6 months.
- A system to identify that the equipment has been formally inspected displayed on the equipment (e.g. a ladder tag or similar sign or label).
- Inspections must be recorded in the register.
- User inspection before each use.

Hired in equipment for short-durations must be inspected before use and every 7 days, if remaining on site for more than 1 month (4 weeks) must be subject to the same inspection regime detailed above. A scaffold tag or similar tag or label must be displayed on the equipment. A copy of the hire / delivery documentation must be retained on site and be made available for inspection is required.

6.1 **Portable Ladders and Steps**

This section does not apply to ladders used as part of a scaffold structure (see section 5 Scaffolding above).

The selection use of a portable ladder or stepladder must be justified through risk assessment. Management must justify the use of ladders and steps by considering:

- Nature of the work is low risk;
- Light duty; and,
6.2 Low Level Access Towers (Folding Towers, Podiums and Hop-ups)

Low level access equipment such as folding towers and podium type steps are viewed as safer options than the use of ladders and stepladders for many construction, engineering and maintenance applications.

Workers must be trained in the safe use of ladders and steps in accordance with the manufacturer’s instructions, see Appendix B Training Standards.

All low-level access equipment used on site must be manufactured and tested in accordance with the BS 1139 Part 6 (see Appendix A Performance Standards).

All low-level access equipment is limited to a maximum height of 2.5m, with exception of hop-up steps which is restricted a maximum height of 600mm. Otherwise different forms of access equipment with be required (e.g. Scaffolding, Mobile Access Tower, MEWP etc.).

All low-level access equipment must be assembled and used strictly in accordance with the manufacturers’ instructions by trained workers (see training requirements above).

A scaffold tagging system must be used and completed following each inspection (e.g. Scafftag or equivalent). Additional inspections will be required following any
event that may jeopardise the safe use of a MAT (e.g. high winds, vehicle impact, interference, overloading etc.).

7. **Falsework and Formwork Structures**

Falsework and formwork operations must be carefully engineered and managed. Temporary structures for concrete construction, support and shoring purposes presents significant risks to the safety of workers and others.

All falsework and formwork operations must be carried out in accordance with the general requirements of this specification and BS 5975 Code of practice for temporary works, procedures and the permissible stress design of falsework.

8. **Powered Access**

This section covers the specification for power operated mechanical work at height equipment and accessories. This equipment is designated as lifting equipment and reference should also be made the PDO lifting procedures and:

- PR 1708 Procedure for Lifting Operations
- PR 1709 Specification for Lifting and hoisting Procedure
- SP 1251 Training Requirements for Lifting Operations Personnel.

In general all lifting equipment for the lifting of persons shall be:

- Designed, manufactured and tested to the relevant standards stated below and in Appendix A Performance Standards.
- Assembled, rigged and operated by authorised competent persons who have received the specified training (see Appendix B Training Standards).
- Lifting equipment must be inspected after assembly/rigging and before use for the first time by a Competent Person.
- Thorough examinations and testing if necessary carried out at least every 6 months by a Competent Engineer.
- Records of engineer’s examination must be retained on site.
- Clearly display a safe load rating.
- Never exceed the safe load rating.
- A secondary Personal Fall Protection System is to be used, as stated in this specification.
Selection of powered access equipment will consider the suitability of surfaces and other structures to support and/or secure the equipment against collapse or overturning.

Powered access equipment must be inspected before use and at least every 7 days by a competent person.

Operators must complete daily visual checks before use.

The work area below powered access equipment to deemed a danger area (see section 4.6 Danger areas) with suitable barriers and warning signs displayed to prevent unauthorised access.

Tools, equipment etc. shall be kept in such a location that they do not represent a tripping hazard and cannot fall or be knocked from the structure. Working platforms shall have a carrying box secured in the platform.

Where no catchment means are located below the workplace, safety lines shall be attached to tools and similar equipment.

All powered access equipment must be serviced and maintained in accordance with the manufacturers recommendations. A service log must be maintained for each piece of equipment.

Operatives must report any defects or problems identified with the equipment, which must be taken out of use, until rectified. Operatives must not attempt to carry out repairs, which must only be carried out by a Content and Authorised Person.

Special precautions shall be taken when using access equipment in the vicinity of live electrical conductors (refer to SP 1242 Activities in the Vicinity of Overhead Power Lines).

### 8.2 Mobile Elevating Work Platforms (MEWP’s)

All MEWP’s shall be approved for use by PDO and must conform to BS EN 280 (see Appendix A Performance Standards).

MEWP’s must operated by authorised and trained persons who hold a Royal Omani Police (ROP) Drivers License (or recognized country license) and hold the appropriate International Powered Access Federation (IPAF) Powered Access License (PAL) for the type of MEWP to be used.

Daily visual checks (at the beginning of each work period before use) should be carried out by the operators, which include:

- Pneumatic tyres are inflated to the correct pressure and tyres are free from cuts and damage
- Operation of the brakes
- Operation of any lights, which include safety warning lights/audible
- Lubricant, coolant and fuel levels
- Integrity of the supporting structure
- Leaks in hydraulic/pneumatic systems
- Correct functioning of powered mechanisms, e.g. raising, slewing, etc.
- Correct functioning of communications systems between platform and ground.

Safety harnesses with fall restraint lanyards to be used in boom-type MEWP’s (except when working over water) to prevent operatives from accessing a position where they could fall (see section 11 Personal Fall Protection Equipment). Only use suitable anchor points specified by the manufacturer. Fall restraint lanyards must be adjusted to the shortest practical length necessary for the platform, ideally no more than 1.5m long.

Note that adjustable or suitable length fall arrest lanyards can be used in a fall restraint mode, as the energy absorbers will not deploy until a load of 3kN or more is applied. Fall arrest equipment should not be used as the dynamic loads imposed could be beyond the capacity of the MEWP.

Never used a MEWP as a hoist, crane or prop, unless designed for the purpose.

MEWPs must be used in accordance with the IPAF Operators Safety Guide and Technical Guidance.

### 8.3 Mast Climbing Work Platforms (MCWP’s)

All MCWP’s shall be approved for use by PDO and must conform to BS7981:2002 A code of practice for the installation, maintenance, thorough examination and safe use of mast climbers and BS EN 1495 Lifting platforms. Mast climbing work platforms (see Appendix A Performance Standards).

MCWP’s must operated by authorised and trained persons who hold the International Powered Access Federation (IPAF) Powered Access License (PAL) special category for MCWPs.

Installers must be trained in accordance with the manufacturers’ instructions.
8.4 Suspended Cradles

This section covers suspended working platforms commonly referred to as cradles.

All proprietary cradle systems shall be approved for use by PDO and must conform to BS EN 1808 Safety requirements on suspended access equipment. Design calculations, stability criteria, construction. Tests (see Appendix A Performance Standards).

Temporary suspended cradles and scaffolds must conform to BS5974:1990 Code of practice for temporarily installed suspended scaffolds and access equipment.

The design, inspection, testing and use of suspended cradles must be in accordance with the Specialist Access Engineering & Maintenance Association (SAEMA) Guidance.

Installers of proprietary cradle systems must be trained in accordance with the manufacturer’s instructions. See section 5 Scaffolding for suspended access scaffolds.

Users of suspended cradles must use Personal Fall Protection Equipment and be attached to a designated anchor point within the cradle or line system.

8.5 Passenger Hoists

All proprietary passenger goods hoists shall be approved for use by PDO and must conform to BS EN 12159 (see Appendix A Performance Standards).

Installers and operators must be trained in accordance with the manufacturer’s instructors.

8.6 Man-rider Baskets

Man-rider platforms are not powered access equipment in themselves, but are accessories designed to be used with cranes or lift trucks. When combined they provide a means of powered access.
Man-rider baskets provide specific hazards as the user is reliant on the operator of the crane or lift truck, therefore there must be an effective means of communication and signaler (Banksman) used as per other lifting operations.

The use of a man-rider platform must be planned and operated the same as any lifting operation in accordance with PR 1708 Procedure for Lifting Operations.

The type of man-rider platform must be approved by PDO and must conform to BS EN 14502 Cranes. Equipment for lifting of persons. Suspended (see Appendix A Performance Standards).

The lifting device (crane or lift truck) must be suitable and have correct load rating.

The man-riding platform must be slung and/or secured to the lifting device as per the manufacturer’s instructions.

Passengers in the man-riding platform must use Personal Fall Protection Equipment and be attached to a designated anchor point within the platform.

9. Safety Netting

9.1 Fall Arrest Safety Netting

Fall arrest safety netting provides collective fall arrest protection for applications where collective preventative measures are not practical e.g. installing roof sheets to open steel frame structures.

Nets must be supplied in accordance with BS EN 1263 Part 1: 2002 (see Appendix A Performance Standards).

All nets must be patch tested by the original manufacturer every 12 months. All nets must be rigged in accordance with BS EN 1263 Part 2: 2002 and BS8411:2007 Code of practice for safety nets on construction sites and other works.

Only competent and trained Riggers are permitted to rig, alter or de-rig safety nets, ideally in accordance with the Fall Arrest Safety Equipment Training (FASET) scheme, or equivalent (see Appendix B Training Standards).
Ensure the most suitable of method of access is used for rigging and de-
rigging safety nets in accordance with the FASET safety guidance notes. 
Remote method of rigging and de-rigging should be used wherever possible.

Net repairs must be tagged and only carried out by a competent person who 
has been trained by the net manufacturer and in accordance with the FASET 
recommendations.

Anchorage for safety nets with be capable of withstanding 6kN of force, 
therefore safety netting must be tied to a suitable structure – never fix nets 
to scaffolding unless it has been designed for the purpose.

Never store materials below safety nets that reduce clearance distances.

Nets must be inspected before use, by a trained safety net inspector, every 7 
days and after any event likely to jeopardise the safe condition of the nets. A 
safety net register must be maintained.

9.2 Tensioned Walk-on Nets (Working Platform Nets)

Tensioned netting systems that can be used as a working platform are a 
relatively new innovation currently being used in the oil and gas industry. 
Therefore, must be subject to specific design scheme and approval by PDO 
before use.

They must be installed, inspected, used and maintained in accordance with 
the manufacturer’s instructions and specific design.

The design must determine the maximum loading. A methodology for the 
safe use must be established for the management of this work at height 
access system as part of the scheme.
10. **Rope Access**

All rope access work must be planned and carried out in accordance with the International Rope Access Trade Association (IRATA) International Code of Practice (ICOP) and the following main performance standards (also see Appendix A Performance Standards):

- BS 7985 - Code of practice for the use of rope access methods for industrial purposes
- ISO 22846 Part 1 - Personal equipment for protection against falls. Rope access systems. Fundamental principles for a system of work
- ISO 22846 Part 2 - Personal equipment for protection against falls. Rope access systems. Code of Practice

All personnel involved in Rope Access operations must be trained and assessed in accordance with the IRATA training scheme (see Appendix B Training Standards). Each working party (crew) must have at least one Level 3 Technician who is responsible for the direct planning and supervision of the work.

A risk assessment and method statement (access permit) must be prepared by the Team Leader covering all aspects of the rope access operations and submitted to the PDO representative for approval and issuing of a permit to work.

The team leader shall prepare an access permit before beginning rope access work. The access permit shall include, but not be limited to, the following safety objectives:

- list the rope access methods to be used for the proposed work,
- list the members of the work team by name and identify their duties. (Note: the Rope Access Supervisor (Level III) shall assess the individual team member’s suitability for the work to be performed.)
- list the rope access equipment to be used for the work to be performed,
- list the hazards associated with the work to be performed,
- list appropriate personal protective equipment (PPE) to be used,
- list provisions for providing security to the anchor,
- list the rescue service and the means to summon the rescue service.

Safety, Secondary and Backup line(s) or other appropriate fall arrest devices shall be used in addition to the main line.

Where a safety line is used in conjunction with the main line, each line should have its own separate anchor and should be separately fixed to the
Worker’s harness. This does not preclude both lines being attached to a single harness attachment point.

Supervisor shall ensure that anchors have been evaluated in order to ensure that overall system safety factors can be met.

Before adopting rope access techniques for a particular job, the asset holder, the contractor shall do a risk assessment.

All persons involved in the Rope Access shall be provided with and shall use personal protective equipment, in accordance with the requirements of SP 1234 Personal Protective Equipment.

It is recommended that only equipment that has a current certificate of the safe working load or minimum breaking strength, or other certification as to reliability, should be used. A check should be made that all certificates are backed by either sample testing to failure, or proof testing on individual items, and a proven quality assurance program, in accordance with an appropriate standard. Equipment should be only used in the manner indicated by the manufacturer.

Technician shall demonstrate that all equipment is used, inspected and maintained in accordance with manufacturer’s instructions. Provisions shall be made for the retirement of equipment as necessary.

Technician shall establish and monitor a procedure to ensure all items of equipment are inspected before each use.

Technician shall ensure that equipment is protected from damage during the course of its use.

11. Personal Fall Protection Equipment (PFPE)

Personal Fall Protection Equipment (PFPE), e.g. safety harnesses, is considered to be a last resort before all other forms of protection has been considered. The PDO hierarchy of controls requires collective protection to be considered before resorting to PFPE.

PFPE can be divided into four main categories:

i. Fall restraint systems  
ii. Work positioning systems  
iii. Rope access systems (see section 10 Rope Access)  
iv. Fall arrest systems

All PFPE must be manufactured to the relevant British and European Standards (see Appendix A Performance Standards) and in accordance with
SP-1234 Personal Protective Equipment. The main performance standards for the use of PFPE are:

- BS 8437 - Code of practice for selection, use and maintenance of personal fall protection systems and equipment for use in the workplace
- BS 8454 - Code of practice for delivery of training and education for work at height and rescue
- BS 7883 - Code of practice for the design, selection, installation, use and maintenance of anchor devices conforming to BS EN 795.
- BS 7985 - Code of practice for the use of rope access methods for industrial purposes
- HSE Guidance INDG367 Inspecting fall arrest equipment made from webbing or rope
- Work at Height Safety Association (WAHSA) Technical Guidance Notes
- IRATA International Code of Practice (see section 10 - Rope Access)
- NASC SG4 Preventing Falls in Scaffolding (see section 5 - Scaffolding).

Personal Fall Protection Equipment (PFPE) must only be selected if safer options cannot be justified.

Contractors wishing to use PFPE must provide a risk assessment and method statement for approval before being permitted work on site. This must include planning for rescue.

All operatives using PFPE must be trained in the use and inspection of PFPE. Training must also include systems and specialist equipment required for rescue. All training must be carried out in accordance with Code of practice BS 8454 and SP1234 Personal Protective Equipment.

All PFPE must be subject to a before use inspection by the operative.

Contractors must be able to demonstrate records of formal thorough inspections at suitable a frequency recommended by UK HSE Guidance INDG 367. These inspections must be carried out by a competent person who has received specific inspection training. Evidence of these thorough inspections must be made available to PDO upon request.

PFPE must be formally inspected by a competent person at the following minimum frequencies:

- Every 6 months for normal use
- Every 3 months for arduous conditions / environments / occupations
- Interim Inspections at a greater frequency determined through risk assessment.
Installed systems (horizontal and vertical lines) – as per manufacturers recommendations.

PFPE must be identified by its unique serial number or other means.

Any PFPE found to be defective or damaged must be removed from use immediately and destroyed.

Horizontal line systems used as part of a fall arrest system must be designed for the purpose in accordance with BS EN 795. Ideally proprietary line systems should be used manufactured and tested to BS EN 795 class C and deployed in accordance with the manufacturer’s instructions. Planning and design must consider following factors:

- Anchorage and the potential end load generated in a fall arrest scenario.
- The maximum number of people permitted to use the line.
- The potential deflection in a fall and the clearance distance required.

Where scaffold structures are used for securing lines or to provide an elevated anchor position for a line system then these structures must be designed as special scaffolds.

12. **Temporary Edge Protection**

Temporary edge protection must to the general requirements for guardrails and handrails stated in section 4 of this specification and conform to BS EN 13374 Temporary edge protection systems.

Installers of proprietary edge protection systems (e.g. Combisafe type) must be trained in accordance with the manufacturer’s instructions.

Where edge protection is constructed using scaffolding equipment (e.g. conventional tube and fittings) then the requirements of section 5 Scaffolding, shall apply.

A safe system of work, using collective protection before resorting to personal fall protection, must be established for the installation of edge protection e.g. the use of a MEWP to erect edge protection guardrails to open steelwork before resorting to climbing the structure attached with a safety harness.
All temporary edge protection systems must be subjected to the same inspection regime as scaffolding structures (see section 5.11 Scaffold Inspection).

13. **Falls from Vehicles**

At PDO we should always be seeking innovation to prevent accidents. This includes falls from vehicles while loading and unloading materials on site. Where possible workers should avoid accessing the vehicle beds. However this is not always possible therefore safe systems of work must consider suitable measures for loading and unloading that best suit the layout of the site and the nature of work.

14. **Work on High Structures**

Personnel shall be adequately trained and experienced in their work, specifically as applied to operating above ground level. Supervisors, adequate in number, training and experience shall be provided for the control of work.

All persons working above ground level shall be provided with and shall use personal protective equipment, in accordance with the requirements of SP-1234 Personal Protective Equipment.

All work at height must be risk assessment to identify the hazards and control measures required as per this specification and the planning process outlined in section 4.

Certain high structures may be assessed as requiring additional restrictions that must be controlled via a special access permits e.g. roof access.

14.1 **Work Practices**

In order to minimise exposure to risk, the minimum practical number of personnel shall be assigned to the job.

Personnel shall not be permitted to climb whilst carrying tools or heavy loads, the only exception being tools carried in a waist belt designed specifically for the purpose. Where tool are carried in a belt for subsequent use the tools will be attached to the belt by a safety line to prevent any dropped objects.

Where appropriate, tools shall be hauled up and lowered in a suitable container, using handlines, gin wheels and ropes or other suitable means. Electrical, pneumatic and hydraulic tools shall not be hauled up or lowered
by their power lines. This type of tool shall not be secured, ‘tied off’ by using the tool cable.
Appendix A - Performance Standards

The appendix states the main external performance standards required by PDO. This list is not exhaustive.

**A1 Scaffolding**

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Scaffolding</td>
<td>BS EN 12811 Part 1: 2003</td>
<td>Scaffolds – Performance requirements and general design.</td>
<td>Technical specification to which all access scaffolding structures should be designed.</td>
</tr>
<tr>
<td>Wind Loads</td>
<td>BS EN 1991-1-4:2005+A1:2010</td>
<td>Eurocode 1. Actions on structures. General actions. Wind actions</td>
<td>The main wind code to be used for the design of scaffolding and other structures. Note reduction factor of 0.7 for temporary structures erected &gt;2 years is permitted as per BS5975, BS EN 12812 and BS 12811.</td>
</tr>
<tr>
<td>Scaffold Tubes</td>
<td>BS 1139 Part 1.1: 1990</td>
<td>Metal Scaffolding – Specification for steel tubes</td>
<td>Withdrawn July 01 and replaced by BS EN 39: 2001 accepted for used tubes, purchased prior to the withdrawal of this standard. Galvanised steel Type 4 tube only in accordance with TG20. Other materials (aluminium) or types (type 3) must have specific engineer's calculations to support their use.</td>
</tr>
<tr>
<td></td>
<td>BS EN 39: 2001</td>
<td>Loose steel tubes for tube and coupler scaffolds.</td>
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</tr>
<tr>
<td>Item</td>
<td>Standard/Guidance</td>
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<td>Comment</td>
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<tr>
<td>BS 1139 Part 1.2: 1990</td>
<td>Metal Scaffolding – Specification for aluminium tubes</td>
<td>Note that some facilities prohibit the use of aluminium access equipment on site.</td>
<td></td>
</tr>
<tr>
<td>Glass Reinforced Plastic (GRP) Scaffold Tubes</td>
<td>No applicable standard.</td>
<td>N/A</td>
<td>Where specified GRP Scaffold Tubes must only be used in accordance with the manufacturer’s instructions and technical data.</td>
</tr>
<tr>
<td>BS 1139 Part 2.1: 1991 (EN 74: 2007)</td>
<td>Specification for steel couplers, loose spigots and base-plates for use in working scaffolds and falsework made of steel tubes.</td>
<td>Drop forged type couplers are preferred to other types. Note that steel couplers are specified as suitable for use with GRP Scaffold Tube by most manufacturers.</td>
<td></td>
</tr>
<tr>
<td>BS 2482: 2009</td>
<td>Specification for timber scaffold boards.</td>
<td>Machine stress graded BS 2482 Boards are preferred to visually graded. Non-standard boards are not permitted e.g. Alpha, Grade A or otherwise. Fire retardant boards only required when subject to specification where significant fire risk has been identified for a specific task.</td>
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<tr>
<td>NASC TG10:06</td>
<td>Fire retardant treatments for timber scaffold boards and battens.</td>
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<tr>
<td>OSHA 1926</td>
<td>Safety &amp; Health Regulations for Construction, Subpart L – Scaffolds – Appendix A</td>
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<tr>
<td>Item</td>
<td>Standard/Guidance</td>
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<tr>
<td>Scaffold Boards (Plastic)</td>
<td>No applicable standard</td>
<td>N/A</td>
<td>Proprietary plastic scaffold boards (e.g. Superdeck) must only be used in accordance with the manufacturer’s instructions and technical data.</td>
</tr>
<tr>
<td>System Scaffolding and proprietary scaffolding components as part of a scaffold structure.</td>
<td>BS EN 12811 Part 1: 2003</td>
<td>Scaffolds – Performance requirements and general design.</td>
<td>Suppliers/manufacturers may be required to provide evidence of compliance with BS EN 12811/BS EN 12810 prior to using a specific System Scaffold.</td>
</tr>
<tr>
<td></td>
<td>BS EN 12810 Part 1: 2003</td>
<td>Façade scaffolds made of prefabricated components – Part 1 Product specifications</td>
<td>As above</td>
</tr>
<tr>
<td></td>
<td>BS EN 12810 Part 2: 2003</td>
<td>Façade scaffolds made of prefabricated components – Part 2 Particular methods of structural design</td>
<td>As above</td>
</tr>
<tr>
<td>Temporary Edge Protection and similar barriers.</td>
<td>BS EN 13374: 2004</td>
<td>Temporary edge protection systems – product specification, test methods.</td>
<td>Applies to all temporary edge protection including proprietary barrier systems and those assembled using scaffolding materials.</td>
</tr>
<tr>
<td>Ground Anchors</td>
<td>NASC Technical Guidance 16 (TG16): 2006</td>
<td>Anchoring to the Ground</td>
<td>Used for securing free standing scaffolds that need to be anchored to the ground.</td>
</tr>
<tr>
<td>Irregularly Boarded Platforms</td>
<td>NASC Technical Guidance 13 (TG13): 2003</td>
<td>Non-Standard Boarded Platforms.</td>
<td>This guide offers best practice for non-standard boarded platforms e.g. to</td>
</tr>
<tr>
<td>Item</td>
<td>Standard/Guidance</td>
<td>Title</td>
<td>Comment</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Accommodate protrusions</td>
<td></td>
<td>had been created to accommodate protrusions through the platform, were gaps may be created.</td>
<td></td>
</tr>
<tr>
<td>Lightning Protection Systems</td>
<td>BS EN 62305 Part 1: 2011</td>
<td>Protection against lightning. General principles</td>
<td>Ensure scaffolding does not undermine existing Lightning protection systems. Generally most scaffolds fixed to superstructure will not required earthing. Special consideration should be given to suspended scaffolds.</td>
</tr>
<tr>
<td>Earthing Scaffolding</td>
<td>NASC Safety Guidance 3 (SG3:08)</td>
<td>Earthing of scaffold structures</td>
<td>Ditto</td>
</tr>
</tbody>
</table>

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## A2 Mobile Access Towers, Portable Ladders & Other Low-level Access Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lightweight Mobile Access Towers</td>
<td>BS EN 1004: 2004</td>
<td>Mobile access and working towers made of prefabricated elements – Materials, dimensions, design loads, safety and performance requirements.</td>
<td>To be used in accordance with the Prefabricated Access Suppliers and Manufacturers Association (PASMA) Operators Code of Practice (current edition). Note that some facilities prohibit the use of aluminium access equipment on site.</td>
</tr>
<tr>
<td>Ladders (Guide here)</td>
<td>BS EN 131 Part 1: 1993</td>
<td>Ladders – Specification for terms, types and functional sizes</td>
<td>This is the main standard for industrial ladders and steps. Old timber ladders manufactured to BS 1129 are still permitted.</td>
</tr>
<tr>
<td></td>
<td>BS EN 131 Part 2: 1993</td>
<td>Ladders – Specification for requirements, testing, marking</td>
<td></td>
</tr>
<tr>
<td>Folding Towers, Podiums and Hop-ups</td>
<td>PAS 250:2012</td>
<td>Low-level work platform with one working platform with side protection for use by one person with a maximum working platform height of less than 2.5 m. Specification Metal scaffolding. Specification for prefabricated tower scaffolds outside the scope of BS EN 1004, but utilizing components from such systems</td>
<td>This is a new publically available specification (PAS) introduced in the UK. Most existing low-level access equipment will not meet this standard, therefore must be approved by PDO before use. The standard for folding towers etc. Below 2.5m.</td>
</tr>
<tr>
<td></td>
<td>BS 1139 Part 6:2005</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## A3 Falsework and Formwork Structures

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BS EN 12812:2008</td>
<td>Falsework. Performance requirements and general design</td>
<td>Technical specification for the design of falsework and formwork systems.</td>
</tr>
</tbody>
</table>

## A4 Powered Access

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ISO 18878:2004</td>
<td>Mobile elevating work platforms. Operator (driver) training</td>
<td>IPAF accredited training is the PDO preference, however equivalent training must conform to this standard.</td>
</tr>
<tr>
<td>Mast Climbing Work Platforms (MCWPs)</td>
<td>BS 7981:2002</td>
<td>Code of practice for the installation, maintenance, thorough examination and safe use of mast climbing work platforms (MCWPs)</td>
<td>Main standard for MCWPs.</td>
</tr>
<tr>
<td>Suspended Cradles</td>
<td>BS EN 1808:1999+A1:2010</td>
<td>Safety requirements on suspended access</td>
<td>Technical specification for proprietary suspended cradles. Also</td>
</tr>
<tr>
<td>Item</td>
<td>Standard/Guidance</td>
<td>Title</td>
<td>Comment</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------------------------</td>
<td>----------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>

### A5 Safety Netting

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BS EN 1263 Part 2:2002</td>
<td>Safety nets. Safety requirements for the positioning limits</td>
<td>Requirements for installation of nets</td>
</tr>
<tr>
<td></td>
<td>BS 8411:2007</td>
<td>Code of practice for safety nets on construction sites and other works.</td>
<td>Formative guide for the use of safety nets. Other forms of reference are available from the trade association <a href="http://www.FASET.org.uk">www.FASET.org.uk</a></td>
</tr>
<tr>
<td></td>
<td>BS 7955:1999</td>
<td>Containment nets and sheets on construction works. Specification for performance and test methods</td>
<td>Technical specification general containment, used with safety nets to contain light debris.</td>
</tr>
</tbody>
</table>
### A6 Rope Access

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rope Access</td>
<td>BS 7985</td>
<td>Code of practice for the use of rope access methods for industrial purposes</td>
<td>Together these codes are the main performance standards for the management of rope access operations.</td>
</tr>
<tr>
<td></td>
<td>ISO 22846 Part 1</td>
<td>Personal equipment for protection against falls. Rope access systems.</td>
<td>Fundamental principles for a system of work</td>
</tr>
<tr>
<td></td>
<td>ISO 22846 Part 2</td>
<td>Personal equipment for protection against falls. Rope access systems.</td>
<td>Code of Practice</td>
</tr>
<tr>
<td></td>
<td>IRATA ICOP</td>
<td>International Code of Practice</td>
<td>The International Rope Access Trade Association (IRATA) is the representative body for the rope access industry globally.</td>
</tr>
</tbody>
</table>

### A7 Personal Fall Protection Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>PFPE Training</td>
<td>BS 8454:2006</td>
<td>Code of practice for delivery of training and education for work at height and rescue</td>
<td>This is the standard that all PFPE training must conform.</td>
</tr>
</tbody>
</table>
### Temporary Edge Protection

<table>
<thead>
<tr>
<th>Item</th>
<th>Standard/Guidance</th>
<th>Title</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Edge Protection</td>
<td>BS EN 13374:2003</td>
<td>Temporary edge protection systems. Product specification, test methods</td>
<td>Technical specification for the design and testing of temporary edge protection for all roofs and leading edges.</td>
</tr>
<tr>
<td>Scaffolding Edge Protection (guardrails)</td>
<td>NASC Safety Guidance 27 (SG27:09)</td>
<td>Edge protection on open steelwork</td>
<td>Provides principles and guidance for edge protection constructed using conventional tube and fitting scaffolding. Helps towards compliance with BS EN 13374.</td>
</tr>
</tbody>
</table>
Appendix B Training Standards

Since the first issue of PDO SP-1257 the industry has experienced changes in the Working at height training aspects.

The training requirements related to CITB stated in version 3, have been changed. CITB has been removed as an accrediting training body.

PDO is committed to maintain the same level of competence for the scaffold teams; individual workers and associated helpers. To enable this PDO training standards have been enhanced to reflect and include the industry development in this discipline e.g. CISRS Overseas.

It will be the responsibility of all Contractors to ensure that personnel employed for work at height activities, particularly scaffold erection, rope access, are fully competent. All personnel involved in planning, organising, managing and working at height must be deemed competent, or if being trained, must work under the supervision of a competent person.

PDO maintain the same stance as in the previous SP-1257 issues and it is incumbent on the Contractor (ideally Contractor Manager or HSE Manager) to formally state, in writing, that they are confident that any individual, proposed for a scaffolding position, is competent for that position. This ensures that the contractor themselves have appraised the qualification and experience of the individual/s before employment.

If the Contractor is in doubt as to the competence of an individual then it will be prudent to ensure that the individual completes a Skill Test.

This appendix specifies the minimum training standards for Work at Height. All personnel involved in planning, organising, managing and working at height must be deemed competent, or if being trained must work under the supervision of a competent person.

**B1 General Training (Refer SP1157 training)**

<table>
<thead>
<tr>
<th>Occupation / Role</th>
<th>Training / Qualification(s)</th>
<th>Accreditation / Approved Scheme</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Personnel</td>
<td>PDO Orientation course</td>
<td>PDO</td>
<td>Mandatory Requirement</td>
</tr>
<tr>
<td>All personnel</td>
<td>PDO site induction (as per SP1157)</td>
<td>PDO</td>
<td>Mandatory Requirement</td>
</tr>
</tbody>
</table>
### B2 Scaffolding Training (Matrix)

<table>
<thead>
<tr>
<th>1(^{st}) Scaffolding Occupation</th>
<th>PDO Recognised Accreditations</th>
<th>PDO Record Cards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labourer/ Ground Hand</td>
<td>PDO Orientation course</td>
<td>Passport Green Record Card</td>
</tr>
<tr>
<td></td>
<td>PDO Site Induction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Formal Yard or Site Labourer Training (Green Record Card)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Induction by employer to include basic instructions for labourer skills may also be 'on- the-job' training with experienced workers.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High level of supervision and monitoring.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Role is only to assist Scaffolders.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Not permitted to erect, alter or dismantle scaffolding. If working at height must do so in a fully boarded and guardrailled platform with safe access and egress, as expected by users.</td>
<td></td>
</tr>
<tr>
<td>Trainee Scaffolder</td>
<td>Basic or Level 1</td>
<td>Passport Skill Test Red Record Card</td>
</tr>
<tr>
<td></td>
<td>Basic Scaffolder</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Basic or Level 1</td>
<td></td>
</tr>
<tr>
<td>Scaffolder</td>
<td>Level 2</td>
<td>Passport, Skill Test, Blue Record Card</td>
</tr>
<tr>
<td></td>
<td>Intermediate Scaffolder</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 2 &amp; 3</td>
<td></td>
</tr>
<tr>
<td>Advanced Scaffolder</td>
<td>Level 3</td>
<td>Passport Skill Test Gold Record Card</td>
</tr>
<tr>
<td></td>
<td>Advanced Scaffolder</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 4</td>
<td></td>
</tr>
<tr>
<td>3(^{rd}) System Scaffolding Erector</td>
<td>N/A</td>
<td>Passport Certificate of Training (only)</td>
</tr>
<tr>
<td></td>
<td>Product Training</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Product Training</td>
<td></td>
</tr>
<tr>
<td>4(^{th}) Scaffolding Inspection</td>
<td>N/A</td>
<td>Passport Skill Test Grey Record Card</td>
</tr>
<tr>
<td></td>
<td>Scaffold Inspection - Basic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scaffold Inspection - Basic</td>
<td></td>
</tr>
<tr>
<td>5(^{th}) Scaffolding Inspection</td>
<td>N/A</td>
<td>Passport Skill Test Purple Record Card</td>
</tr>
<tr>
<td></td>
<td>Scaffold Inspection Advanced</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scaffold Inspection-Advanced</td>
<td></td>
</tr>
<tr>
<td>6(^{th}) Scaffolding Supervisor / Manager</td>
<td>N/A</td>
<td>Passport Skill Test Platinum Record Card</td>
</tr>
<tr>
<td></td>
<td>Scaffolding Supervisor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Scaffolding Supervisor</td>
<td></td>
</tr>
</tbody>
</table>

### Notes

1. Contractors must underwrite (present a formal statement to PDO Contract holder) explaining the competence assessment framework and state the current level of an individual for their working at height operatives, before site commencement.

2. All Contractor companies (scaffolding operatives) must be able to demonstrate the relevant Competence of an operative or arrange a Skill Test for their appropriate grade. Evidence will be the appropriate card or with regard to manufacturers training it may be recorded in the Contractor records or PDO Passport.

3. Training providers will be expected to supply cards in the correctly colour code for work at PDO.
4. Operatives must be trained in the specific system e.g. Cuplok, Kwikstage etc. System scaffolding should be erected by Scaffolders to the appropriate grade for the type of scaffold structure (e.g. Basic, Intermediate or Advanced). Where non-scaffolders wish to erect system scaffolds for a specific task, they must receive specific training with limited scope and subject to a ‘step out’ approval e.g. very basic low-level scaffolds for a specific task.

5. Scaffold Inspectors must have at least 3 years experience as a Scaffolder or Advanced Scaffolder before becoming an Inspector.

6. Scaffolding Supervisors or Management must have at least 5 years experience as a Scaffolder, Advanced Scaffolder or Scaffold Inspector.

### B3 Other Work at Height Training

<table>
<thead>
<tr>
<th>Occupation / Role</th>
<th>Training / Qualification(s)</th>
<th>Accreditation / Approved Scheme</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Access Towers</td>
<td>▪ PASMA Standard Training Course&lt;br&gt;▪ PDO or recognised equivalent</td>
<td>▪ PASMA Approved Training Provider or recognised equivalent</td>
<td>At least 1 member of the working party must hold a PASMA certificate or equivalent.</td>
</tr>
<tr>
<td>Portable Ladders &amp; other Low-level Access Equipment</td>
<td>▪ PASMA Low-level Access Training Course&lt;br&gt;▪ Ladders &amp; Steps Training Course&lt;br&gt;▪ PDO Recognised equivalent&lt;br&gt;▪ In-house Training /briefing</td>
<td>▪ PASMA Approved Training Provider&lt;br&gt;▪ Employer</td>
<td>Formal training is preferred; however where in-house training is undertaken for the use of ladders and low-level access equipment, the training must be approved by PDO.</td>
</tr>
<tr>
<td>Falsework / Formwork Erector</td>
<td>Product Training</td>
<td>Manufacturer / Supplier</td>
<td>Proprietary product training must be provided in accordance with the manufacturer’s instructions. Such product training must be approved by PDO.</td>
</tr>
<tr>
<td>Occupation / Role</td>
<td>Training / Qualification(s)</td>
<td>Accreditation / Approved Scheme</td>
<td>Comments</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td>------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Mobile Elevating Work Platforms (MEWPs)</td>
<td>IPAF Powered Access Licence</td>
<td>IPAF Approved Training Provider</td>
<td>Note that the IPAF scheme is divided into different grades and categories depending upon the type of MEWP and operation – for info see <a href="http://www.ipaf.org">www.ipaf.org</a> PAL holders must receive a familiarisation briefing and record a log book of their experience.</td>
</tr>
<tr>
<td></td>
<td>ROP Drivers Licence, or recognised country equivalent.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mast Climbing Work Platforms (MCWPs)</td>
<td>IPAF Powered Access Licence</td>
<td>IPAF Approved Training Provider</td>
<td>IPAF special category for MCWPs.</td>
</tr>
<tr>
<td>Safety Net Riggers</td>
<td>FASET Training &amp; Assessment or PDO recognised equivalent.</td>
<td>FASET Approved Training Provider / Assessor</td>
<td>Note that the FASET scheme relies upon training, experience and achievement of an NVQ.</td>
</tr>
<tr>
<td>Rope Access Technician</td>
<td>IRATA Level 1, 2 or 3</td>
<td>IRATA Approved Training Provider</td>
<td>IRATA is the only scheme recognised by PDO for rope access operations. Each working party (crew) must be led by a Level 3 Technician.</td>
</tr>
<tr>
<td>Temporary Edge Protection Installation (proprietary)</td>
<td>Product Training</td>
<td>Manufacturer / Supplier</td>
<td>Proprietary product training must be provided in accordance with the manufacturer’s instructions. Such product training must be approved by PDO.</td>
</tr>
</tbody>
</table>
## Appendix C – Scaffold Design Matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Scaffolding Structure</th>
<th>Cat 0 Standard Configuration Engineering not required</th>
<th>Cat 1 Engineering Design &amp; Calcs Required</th>
<th>Cat 2 Complex Design</th>
<th>Cat 3 Third Party Design Checks Required</th>
</tr>
</thead>
</table>
| 1    | Mobile and Static Access Towers (including Stairways) constructed to:  
  - NASC TG20: 2008 height to base ratio  
  - Proprietary system scaffolding manufacturers’ instructions. | | ✓ | | |
| 2    | Other Mobile and Static Access Towers (including stairways) | | ✓ | | |
| 3    | Independent Tied Access Scaffolds:  
  - Up to 10m high  
  - Constructed to NASC TG20: 2008 Section 2 Standard Scaffolds Class 1 Very light duty (0.75kN/m²) to Class 4 Heavy Duty (3kN/m²)  
  - Proprietary system scaffolding manufacturers’ instructions. | | ✓ | | |
| 4    | Independent Tied Access Scaffolds,  
  - >10m high  
  - NASC TG20:2008 requirements of Section 2 Standard Scaffolds cannot be achieved  
  - System scaffolding not conforming to the manufacturers’ instructions. | | | ✓ | |
| 5    | Other Independent Tied Access Scaffolds | | | ✓ | |
| 6    | Sheeted access scaffold outside the scope of TG20:08 or proprietary system scaffold manufacturer's instructions (includes solid plastic sheeting, debris or shade netting, large sign boards, hoarding or other forms of cladding). | | | ✓ | |
| 7    | Temporary Roofs / Buildings / Endosures / Habitats constructed indoors (without wind loading). | | ✓ | | |
| 8    | Temporary Roofs / Buildings / | | | ✓ | |

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<th>Cat 0 Standard Configuration Engineering not required</th>
<th>Cat 1 Engineering Design &amp; Calcs Required</th>
<th>Cat 2 Complex Design</th>
<th>Cat 3 Third Party Design Checks Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>Enclosures / Habitats constructed outdoors (or with wind loading).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 10   | Birdcage Access Scaffolds  
   - Constructed in traditional tube and fittings to TG20:08  
   - <10m high with a 1:1 height to base ratio  
   - Very light duty Class 1 (0.75kN/m^2)  
   - System scaffolding conforming to the manufacturers’ instructions. | ☑ |                               |                                        |                     |
| 11   | Birdcage Access Scaffolds  
   - >10m high or with a larger height to base ratio >1:1.  
   - NASC TG20:2008 requirements cannot be achieved  
   - System scaffolding not conforming to the manufacturers’ instructions. |                               | ⬜ |                               |                                        |
| 12   | Bridged Access Bays:  
   Using spur or pullback bracing or proprietary beams (in accordance with manufacturers’ instructions) | ⬜ |                               |                                        |                     |
<p>| 13   | Loading Bays / Towers founded from the ground to be mechanically loaded. | ⬜ |                               |                                        |                     |
| 14   | Cantilevered Access Bay(s) from an Access Scaffold founded from the ground. | ⬜ |                               |                                        |                     |
| 15   | Cantilevered Loading Bays |                               | ⬜ |                                        |                     |
| 16   | Cantilevered Drop-Lift Access Scaffolds |                               | ⬜ |                                        |                     |
| 17   | Truss-out Access Scaffolds |                               | ⬜ |                                        |                     |
| 18   | Slung/Suspended Access Scaffolds |                               | ⬜ |                                        |                     |
| 19   | Pedestrian lifts, frames and gantries (with or without a protection deck). | ⬜ |                               |                                        |                     |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Scaffolding Structure</th>
<th>Cat 0 Standard Configuration Engineering not required</th>
<th>Cat 1 Engineering Design &amp; Calcs Required</th>
<th>Cat 2 Complex Design</th>
<th>Cat 3 Third Party Design Checks Required</th>
</tr>
</thead>
</table>
| 19   | Protection Fans (Falling object protection)  
- Constructed in accordance with TG20 Classes A to D  
- Proprietary protection safety net fan systems designed and rigged to BS EN 1263 and BS EN 13374. |  |  |  | ✓ |
| 20   | Radial Access Scaffolds (splayed scaffolds) not covered by TG20 or system scaffold manufacturer's instructions. | ✓ |  |  |  |
| 21   | Free-standing, or Non-Tied Scaffolds, or Scaffold where tying problems are anticipated and require special stability measures, including:  
- Buttresses  
- Kentledge, counter weights or ballast.  
- Guys and anchors | ✓ |  |  |  |
| 22   | Scaffolds supported off existing structures / roofs etc. Where the load bearing capacity is not known. |  | ✓ |  |  |
| 23   | Scaffolds to be founded on a soft, poor, suspect or unknown base/ground conditions, including basing out on other suspended structures e.g. gantries, canopies, walkways, bridges, stairs etc. |  | ✓ |  |  |
| 24   | Proprietary System Scaffolding Loading Towers  
In accordance with the manufacturer's instructions | ✓ |  |  |  |
<p>| 25   | Other loading towers (tube and fitting) or loading bays to be mechanically loaded. | ✓ |  |  |  |
| 26   | Scaffold Structures / Modularised Scaffolding Assemblies to be repositioned by crane or other lifting equipment. |  | ✓ |  |  |
| 27   | Shoring or retention scaffolds, including falsework and formwork structures. |  |  |  | ✓ |</p>
<table>
<thead>
<tr>
<th>Item</th>
<th>Scaffolding Structure</th>
<th>Cat 0 Standard Configuration Engineering not required</th>
<th>Cat 1 Engineering Design &amp; Calcs Required</th>
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<th>Cat 3 Third Party Design Checks Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>29</td>
<td>Temporary pedestrian fire escapes, foot bridges and walkways.</td>
<td></td>
<td></td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>Temporary vehicle ramps and roadways.</td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>

This Scaffold Design Matrix has been prepared as guidance only and is not an exhaustive list. For confirmation or scaffolding structures not featured Design advice should be sought.

**Notes:**
Specific Engineering is not required provided the scaffold is erected in accordance with the specified generally recognised standard configuration, by competent Scaffolders.

Engineering advice includes sketches and notes. Verbal advice given should be supported by a note, email or fax confirmation.
### Appendix D Example Scaffold Request Form

**Scaffold Request Form**

- **Department:** 
- **SRF Number:** 0000
- **Name of Requestor:** 
- **Position:** 

**Location Details:** 

**Task Details** (provide information on the intended use of the scaffolding and loading):

<table>
<thead>
<tr>
<th>Duty (if known)</th>
<th>Typical Tasks</th>
<th>Tick</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Class 1 - Very Light Duty</strong> 0.75 kN/m²</td>
<td>One worker per m² - inspection, light cleaning and access etc... no materials or equipment.</td>
<td></td>
</tr>
<tr>
<td><strong>Class 2 – Light Duty</strong> 1.5 kN/m²</td>
<td>Two workers per m² – Light maintenance, painting, cleaning or access.</td>
<td></td>
</tr>
<tr>
<td><strong>Class 3 – General Purpose</strong> 2 kN/m²</td>
<td>Two workers + 50Kg of materials per m² – General maintenance or access</td>
<td></td>
</tr>
<tr>
<td><strong>Class 4 – Heavy Duty</strong> 3 kN/m²</td>
<td>Two workers + 100Kg of materials per m² – Heavier maintenance work or access.</td>
<td></td>
</tr>
<tr>
<td><strong>Classes 5-6 - Special Purpose</strong></td>
<td>Special Loading requirements – must be designed and calculated – e.g. loading tower, lifting frame etc.</td>
<td></td>
</tr>
</tbody>
</table>

**Date Requested:** 

**Date Required:** 

**Duration (if known):** 

**Safety Management Systems:**

- Workplace Surveyed with Scaffolding Contractor? 
  - Yes 
  - No
- Risk Assessment (HEMP) Completed? 
  - Yes 
  - No
- Isolations Required? 
  - Yes 
  - No
- Emergency Arrangements established? 
  - Yes 
  - No

**Additional Information:**

**Requestor’s Signature:** 

**Scaffolding Contractor:** 

**Issued to:** 

---

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### Appendix E Design Check Certificate Template

**SCAFFOLD DESIGN CHECK CERTIFICATE**

<table>
<thead>
<tr>
<th>Cert. No.</th>
<th>Project</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Design Checker</th>
<th>Organisation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

I certify that reasonable professional skill and care have been used in the design of the following scaffold structure associated with the above Contract (identify as per relevant the Design Certificate).

This is accurately described by the following drawings and other documents:

(List the relevant documents, each of which must be uniquely identified by number or otherwise e.g. by title and date. Drawing numbers should include revision letters if appropriate.)

Description of Check carried out e.g. concept, structural, dimensional:

(Stat the Standards and Codes, computer programmes and standard data used in the design. State also any deviations from these codes, together with justification.)

With the objective of ensuring that:

a) The design is accordance with the requirements of the contract;
b) The standards and codes stated on the Design Certificate are appropriate;
c) Any deviations stated on the Design Certificate from the standards and codes are appropriate in the circumstances;
d) The design is in accordance with the standards and codes (including any deviations stated) on the design certificate.

To be signed by the Scaffold Design Checker:

<table>
<thead>
<tr>
<th>Signed</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To be signed an independent designer to whom the SDC is responsible (e.g. Team Leader):

I [the undersigned] certify that the staff who have prepared the above check are competent to carry out their duties and that so far as I can reasonably ascertain they have used reasonable professional skill and care.

<table>
<thead>
<tr>
<th>Signed</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Print Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix F Example Scaffold Inspection Report

#### SCAFFOLD INSPECTION REPORT

*Report of results of every inspection made in pursuance of section [x] PDO Work at Height Specification*

<table>
<thead>
<tr>
<th>Name &amp; Address of the company/person on whose behalf the inspection was carried out:</th>
<th>Location of the place of work inspected (Site Address):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description (Tower, Independent, Birdcage)</td>
<td></td>
</tr>
<tr>
<td>Date Erected</td>
<td>Date &amp; Time of Inspection</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Example*

---

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Appendix G Typical Signs and Notices

G1 Example Restricted Access Sign

G2 Example Caution Working Overhead

G3 Example Special Loading Sign

G4 Example Fragile Roof Sign
**G5 Example Scaffold Incomplete Sign**

**G6 Example Scaffold Tagging System**
Appendix H References and Further Information

Petroleum Development Oman (PDO)  wwwpdo.co.om
Ministry of Manpower (MOM)  www.manpower.gov.om
(Reduction Law)
Royal Oman Police (ROP)  www.rop.gov.om
American National Standards Institute (ANSI)  www.ansi.org
British Standards Institute (BSI)  www.bsigroup.co.uk
Construction Industry Scaffolders’ Record Scheme (CISRS)  www.cisrs.org.uk
Fall Arrest Safety Equipment Training (FASET)  www.faset.org.uk
International Powered Access Federation (IPAF)  www.ipaf.org
International Rope Access Trade Association (IRATA)  www.irata.org
International Scaffolder (Interscaff)  www.internationalscaffolder.com
International Standards Organisation (ISO)  www.iso.org
National Access & Scaffolding Confederation (NASC)  www.nasc.org.uk
Occupational Safety and Health Administration (OSHA)  www.ohsa.gov
Prefabricated Access Suppliers and Manufacturers Association (PASMA)  www.pasma.co.uk
Specialist Access Engineering and Maintenance Association (SAEMA)  www.saema.org
Work at Height Safety Association (WAHSA)  www.wahsa.co.uk
National Vocational Qualifications/QCF  www.cityandguilds.com