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	DPR TECHNICAL SAFETY STANDARDS	ORIG DEPT: Technical Services

GUIDELINES AND PROCEDURE
FOR
LIFTING EQUIPMENT AND LIFTING OPERATIONS

THE DEPARTMENT OF PETROLEUM RESOURCES
2013

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Lifting Equipment Protocol

1.0 Purpose

To ensure the integrity of Lifting equipment, Lifting Operations and to establish uniform set of requirements for lifting which must apply to all Oil and Gas Operations in Nigeria. The intent is to guarantee safety, ensure compliance, zero damage to associated equipment and to protect the life of personnel(s) involve in the lifting operations and Minimum life cycle costs for all lifting equipment

2.0 Scope

This protocol covers all Lifting Operations both onshore and offshore and lifting equipment used at sites within DPR jurisdiction. It is the responsibility of Operating Companies & its Clients, Contractors and any other users working within DPR jurisdiction to ensure that all requirements stipulated in this protocol are fully complied with.

Exclusions:

- Requirements for rope access: This information can be found in DPR Guidelines and Procedure for Rope Access and also IRATA regulations for Industrial Rope Access Systems: Specification, Selection, Use and Maintenance.
- Requirements for escape lines.
- Merchant Navy Vessel, Marine ropes, anchors etc.,

3.0 References

- Mineral Oils (Safety) Regulations 1997
- Nigerian Workmen Compensation Act
- Petroleum Drilling and Production Regulations 1969 and Subsequent amendment"
- DM Technical Guidelines 41 pursuant to Local Order 61/ 1991, "Examination and certification of crane, hoists, lifts and other lifting appliances".
- ISO/ IEC 17020:1998 General criteria for the operation of various types of inspection bodies.

4.0 Definition

4.1 Load

This is the actual load or mass of any material, people or animals (or any combination of these) that are lifted by the lifting equipment. In some circumstances, such as in the use of a mobile crane, the weight of the lifting accessories including the hook block will need to be considered as part of the load being lifted.

4.2 Lifting Equipment

Work equipment for lifting or lowering loads and its attachments used for anchoring, fixing or supporting it. It includes any lifting accessories that attach the load to the machine in addition to the equipment which carries out the actual lifting function. Lifting equipment encompasses Lifting Appliances and Lifting Accessories.

4.3 Lifting Appliances

Any lifting machine, driven by manual or mechanical power that is able to raise, lower or suspend loads, and includes the supporting structure and all plant, equipment and gear used in connection with such a machine, but excludes continuous mechanical handling devices (i.e. conveyors) such as but not limited to:

- Cranes (tower, mobile etc),
- Wall / Pillar Cranes, Derricks, Swing Jibs and Davits,
- Runway Beams, Monorails, All Pad Eyes are lifting gears, Gin Poles and Gin Wheels,
- Winches, Hoists (air and electric), Crabs, Telfer Hoists,
- Chain Blocks, Wire Rope Pulling Machines, Pull Lifts, Trolleys,
- Powered working Platforms,
- Elevators and Lifts,
- Forklifts, Self Loader and Side Booms,
- Lifting Jacks (pneumatic or hydraulic).

4.4 Lifting Accessories or Loose Gear

Any item used to connect a load (connecting units) to the lifting appliances but which is not in itself a part of the load or the equipment, such as:

- Chains slings and Wire Ropes slings,
- Chain, Wire Rope repetitions see above and Webbing Slings,
- Rings, Links, Hooks, Shackles, Eye Bolts, Swivels, Blocks, Snatch Blocks,
- Beam Clamps and Plate Clamps,
- Lifting Beams / Spreader Beams.

4.5 Competent persons

The Competent personnel carrying out a Thorough Examination (TE) must be deemed competent by virtue of attaining the appropriate theoretical and practical knowledge, together with experience that will enable them to detect defects or weaknesses in the equipment. This will be a combination of experience; training and qualifications some of which are listed in **Annex II**. The competent personnel must be “independent and impartial”. This does not prevent someone working for the same organisation being the competent person but should not be someone who is responsible for production/operation/profit. The competent personnel must have a minimum of 3 years hands-on experience within a relevant engineering discipline related to lifting equipment and appropriate knowledge of the relevant laws, local & administrative orders, codes of practice and inspection techniques.

4.6 Inspection

Any physical activity, related to ensuring that an item of “Lifting Equipment”, in its entirety and at a given location or environment, meets the specified design and operating Standards and is safe to operate or utilize for a specified period. This includes, but not limited to, activities such as measuring, testing, and recording, checking, analyzing, loading and charting one or more characteristics of the equipment.

4.7 Periodic Inspection

This is the minimum, specified period, denoted in days, weeks, months or years, between one “Inspection” and a repeat or next “Inspection” as per **Annex 1**.

4.8 Thorough Inspection

It means the following items shall be checked for compliance with manufacturers’ specifications and safe operation, as a minimum:

- Oil levels, fuel level and lubrication.
- Ropes, rope terminal fittings and anchorages, rope drums and sheaves for any damage and wear.
- All water is drained from air reservoirs.
- Crane for any loose or damaged structural component including supports and outriggers where fitted. Loose joints may be readily noticed by flaking or marking on the paint surface or by rust marks. Similarly, cracks may often be detected by rust runs.
- Security of the counterweight. Where this is in the form of removable weights, checking that the weights correspond to those shown on the counterweight chart for the operating condition in use.
- Load moment system where fitted, is correctly set or fitted (or both) with the program appropriate to the boom or jib length, and fly-jib lengths and falls or parts of rope.
- Indicator appropriate to the boom, jib or fly-jib length is fitted.
- Crane cabin is in a tidy condition and free from grease and oil, rags, tools and materials other than those for which storage provision is made.
- Pneumatic systems and hydraulic systems including their safety devices.
- Operation of the crane through all motions with particular attention to brakes.
- Operation of all limit switches or cut-outs and safety devices. Caution to be exercised in making the checks in the event of non-operation.

4.9 Working Load Limit (WLL)

This means the maximum load (mass), which any piece of lifting equipment may lift safely in the most efficient configuration. For wire rope sling, chain slings and fibre rope slings, this is in direct lift i.e. eye to eye in a straight vertical line/ hitch.

4.10 Safe Working Limit (SWL)

This means the maximum load (mass), which any piece of lifting equipment may lift safely in a particular configuration, other than its most efficient configuration. e.g. for a wire rope sling choked on a square load without any corner protection, its safe working load is approximately 50%; choker hitch should be 80% of its WLL.

4.11 Proof Load Test

This implies the application of a predetermined load excess of SWL to assess the ability of the equipment to withstand operation requirements. This applied proof load shall never exceed the elastic limit of the item being tested. The amount of Proof Load to be applied will vary depending upon the type of equipment, its SWL, and the applicable Standard. On completion of any proof load test, the “Lifting Equipment” is to be fully inspected to ensure that the structural integrity of the equipment has not been impaired.

5.0 Procedure for Lifting Operation

5.1 General Requirements

Lifting equipment is so constructed or adapted as to be suitable for the purpose for which it is used or provided, and to have regard to the working conditions and risks to health and safety in the place in which that work equipment is to be used. The risk assessment must be carried out as per the requirements of Regulation 2 of the Mineral Oils (Safety) Regulations (MOSR) 1997. The risk assessment will need to include:

- How often the lifting equipment will be used;
- Where the lifting equipment will be used;
- The nature and characteristics of the load that the lifting equipment will lift;
- Any limitations on use specified by the manufacturer or supplier;
- It must cover means of access, ergonomic risks, weather conditions in open-air operations, etc;
- Every lifting operation involving lifting equipment shall be;
 - properly planned as Lifting Plan and this is to be done by a competent person,
 - appropriately supervised,
 - carried out in a safe manner.

Look out for:

- Suspended loads – where are people working? - If the load fell?
- The continuing integrity of equipment
- The attaching and detaching of loads
- Proximity hazards
- Pre-use check

- DO NOT overload
- Be aware of causes of over-turning and ensure this does not happen.
- Visibility – ensure we can see what is happening
- All lifting operations are ‘**risk assessed**’ Safe Working Load - **SWL’s** – **must NOT be exceeded**
- The status of all equipment should be known by all people using it and all who may be affected by it. The status is to be clearly identified
- All checks are to be done by a responsible person trained in pre-use and in service inspection
- Only trained people should be allowed in areas where lifting equipment is used
- The equipment in use is only to be made of material suitable for the conditions under which it is to be used.
- All fixing points and mountings are to be of adequate strength and capability
- Environmental aspects need to be taken into consideration e.g. when out of doors, high winds and temperature which may affect structural integrity
- Equipment that has been stored needs to be checked prior to use
- All Lifting Equipment must be stored and controlled to prevent accidental use of damaged and worn equipment

5.2 Crane on Hire

The crane hire company has a duty to ensure that when a mobile crane is hired out, a physical evidence must accompany it (e.g. a copy of the last examination report issued by Approved agency), and the user should ensure that this evidence is available. The user should ensure that the crane is thoroughly examined by a competent person before it is put into use, to make sure it is safe to operate.

The user has the duty to manage the subsequent lifting operations in a safe manner. The user (as an employer or a self-employed person) also has the duty to ensure that periodic thorough examinations are undertaken at the frequencies laid down in this protocol. The user may well come to an arrangement with the hirer under which the hirer carries out the thorough examinations, but that does not alter the user's duty to make sure they are done.

5.3 Crane for Hire for Contract Lifting Operations

This refers to the situation where an organisation enters into a contract with a third party who will undertake the lifting operation on their behalf, i.e. the third party provides the crane and the operator. In these circumstances the crane owner has the duty to ensure that the crane is properly maintained, examined and has valid test certificate and safe to use and that the lifting operation is carried out safely.

5.4 Strength and Stability

- Lifting equipment should be of adequate strength and stability for each load, having regard in particular to the stress induced at its mounting or fixing point.
- Every part of a load and anything attached to it and used in lifting it should be of adequate strength.
- Account should be taken of the combination of forces to which the lifting equipment will be subjected as well as the weight of any associated accessories used in the lifting operation. A competent person should ensure that the strength and stability of the lifting equipment continues to be adequate for the tasks that the equipment is intended to be used.
- Where appropriate, suitable and effective measures must be taken to provide sufficient resistance to overturning in order to ensure the adequate stability of the lifting equipment. Where there is a significant risk of overturning and/or overloading arising from the use of the equipment, it should be provided where appropriate, with equipment or devices such as rated capacity indicators and rated capacity limiters. Such devices provide audible and/or visual warning when the safe lifting limits are being approached.

5.5 Positioning and Installation

Lifting equipment should be positioned or installed thereafter SHALL be examined thoroughly in such a way as to reduce to as low as is reasonably practicable the risk of the lifting equipment or a load striking a person; or from a load drifting, falling freely or being released unintentionally.

It should be ensured that there are suitable devices to prevent a person from falling down a shaft or hoist way.

5.6 Requirements for Lifting Accessories

The main requirements relating to lifting accessories are as follows:

- They shall be of good construction, sound material, and adequate strength and free from patent defects.
- The safe working load (SWL) must be displayed or, for lifting accessories, plainly marked on them; only items listed or marked may be used in a lifting operation.
- The safe working load must NEVER be exceeded.
- Before being taken into service for the first time all items must be tested and thoroughly examined by a competent person, and at six-monthly intervals during service.
- Accessories exposed to harsh conditions and undue wear must be inspected at intervals necessary to ensure their safety, this may be at periods less than 6 months in accordance with an examination scheme.
- Certificates must be issued for all items.

- The EC Declaration of Conformity or the Manufacturers Test Certificate and every other subsequent report of thorough Examinations for each of the lifting accessories must be kept the technical file.
- Wrought iron equipment must be periodically annealed (i.e. subjected to heat treatment which enables the wrought iron to revert to its "safer" crystal structure).
- Registers of equipment details must be kept.

5.7 Lifting Equipment for Lifting Persons

Lifting equipment for lifting persons used at any operational location is designed:

- To prevent a person using it from, being crushed, trapped or struck, or falling from the carrier.
- To prevent so far as is reasonably practicable a person using it, while carrying out activities from the carrier, being crushed, trapped or struck or falling from the carrier.
- With suitable devices to prevent the risk of a carrier falling.
- So that a person trapped in any carrier is not thereby exposed to danger and can be freed.

Lifting Equipment used for lifting person SHALL be labeled: PERSONNEL LIFT ONLY

The raising and lowering of people by work equipment, which is not specifically designed for the purposes, should only be undertaken in exceptional circumstances, when it is not practicable to gain access by less hazardous means. Where it is necessary to use such work equipment then all necessary precautions must be taken to ensure safety, including appropriate supervision.

Examples of lifting machinery which is not specifically designed for lifting people but which could be used if the necessary precautions are taken include a fork- lift truck, a telescopic handler and a crane (fixed or mobile). When fitted with a suitably designed carrier or working platform, these can provide a safer alternative to other means of access (such as a ladder). However, such an arrangement will not provide the same level of safety as purpose- built equipment such as a mobile elevated work platform (MEWP).

5.8 Marking of Lifting Equipment

- Machinery and accessories for lifting loads are clearly marked to indicate their safe working loads.
- Where the safe working load of machinery for lifting loads depends on its configuration then the machinery is clearly marked to indicate its safe working load for each configuration; or
- Information, which clearly indicates its safe working load for each configuration, is kept with the machinery.
- Accessories for lifting are also marked in such a way that it is possible to identify the characteristics necessary for their safe use.

- Lifting equipment, which is designed for lifting persons, is appropriately and clearly marked to this effect.

5.9 Colour Coding

It is mandatory to ensure all portable, circulating and fixed lifting equipment are colour coded to give visual indication of its certification status.

The following **colour code cycle** must be used to indicate the current lifting accessories in use, such as: Chains and Wire Ropes, Webbing Slings, Hooks, Shackles, Eye Bolts, Swivels, Blocks, Snatch Blocks, Beam Clamps and Plate Clamps, Lifting Beams / Spreader Beams etc.,

Inspection Frequency	Even Year		Odd Year	
Six Monthly	Q1-Q2 Yellow	Q3-Q4 Green	Q1-Q2 Green	Q3-Q4 Blue
Annually	Yellow		Green	

5.10 Thorough Examination and Inspection

Operators & Contractors and users must ensure that lifting equipment is thoroughly examined after installation and prior to service. Also, it must be ensured that lifting equipment, which is exposed to conditions that could cause deterioration and that can result in dangerous situations is thoroughly examined –

- In the case of lifting equipment for lifting persons or an accessory for lifting - at least every 6 months
- In the case of other lifting equipment - at least every 12 months; or
- In either case, in accordance with an examination scheme (Annex 1); and
- Each time that exceptional circumstances which are liable to jeopardize the safety of the lifting equipment have occurred; and
- If appropriate for the purpose, is inspected by a **competent person** at suitable intervals between thorough examinations.

5.11 Educational Background and Qualifications:

The competent personnel carrying out a thorough examination must have appropriate practical and theoretical knowledge and experience of the lifting equipment to be thoroughly examined to detect defects or weaknesses and to assess their importance in relation to the safety and continued use of the lifting equipment.

The competent person must have a minimum of 3 years hands-on experience within a relevant engineering discipline related to lifting equipment and appropriate knowledge of the relevant laws, local & admin orders, codes of practice and inspection techniques. No body is allowed to perform inspection independently without having appropriate qualification and training.

5.12 Training

All persons who use lifting equipment must have received adequate training for purposes of health and safety, including training in the methods which may be adopted when using the lifting equipment, and be aware of any risk which such use may entail and precautions to be taken.

Any person who supervises or manages the use of lifting equipment must have received adequate training for purposes of health and safety, including training in the methods which may be adopted when using the work equipment, and be aware of any risk which such use may entail and precautions to be taken and methods of safely controlling the equipment.

Minimum training requirement as contained in **Annex II** of these guidelines shall be strictly adhered to.

5.13 Reports and Defects

A person making a thorough examination for an organization must:

1. Notify the organization of any defect in the lifting equipment which in his opinion is or could become a danger to persons.
2. As soon as is practicable, make a report of the thorough examination in writing, authenticated by him to the organization and any person from whom the lifting equipment has been hired or leased.
3. Owner/User of lifting equipment who has been notified of defects must ensure that the lifting equipment is not used before the defect is rectified.

5.14 Use & Maintenance

This guideline is pursuant to Mineral Oils (Safety) Regulations 1997, and deals with the Maintenance of lifting equipment. In addition to the pre-operational checks to be conducted by the operator before the commencement of the work, a system of regular maintenance by competent persons must be in existence and records kept and logged. They should be operated within defined safe operating limits, e.g. the maximum lift height and capacity. Equipment should be properly maintained according to manufacturers' instructions on inspection, maintenance and servicing. In addition to these checks, which should be carried out by a competent person on a routine basis, the operator should carry out a daily safety check.

A record of all checks and repairs carried out should be retained.

5.15 Third Party Inspection Bodies

Third party inspection bodies must have valid accreditation from DPR and any other International certification body.

The Inspection Body must have a management system, which includes but not limited to the following:

Proper Documentation of its policies, procedures and operations starting from receiving the request for an inspection, carrying out contract review, preparing for inspection, performing inspections, recording results and up to the issuance of the final report/ certificate in accordance with the documentation requirements of ISO/ IEC 17020:1998 "General criteria for the operation of various types of bodies performing inspections" and any additional requirements set by the relevant authorities.

6.0 Record Keeping

Operators, Contractors, Owner and Users of the lifting equipment must ensure that the information contained in every report made to them is kept available for inspection:

- In the case of a thorough examination of lifting equipment other than an accessory for lifting; until they cease to use the equipment.
- In the case of a thorough examination of an accessory for lifting; for two years after

the report.

- Any EC conformity declaration received must be kept for as long as the equipment is operated.
- The initial declaration must be kept until the equipment is disposed of.
- Reports of thorough examinations and inspections should be kept available for inspection at the place where the lifting equipment is being used. If this is not possible, the information should be readily accessible.
- Reports must be readily available to the DPR office as required.
- No lifting equipment should leave any undertaking unless accompanied by physical evidence that the last thorough examination has been carried out and colour coded as per this protocol.

Annex II: List of Required Training

S/N	Course	Application	Target Group
1.	Mobile Crane Operation	<p>1. Onshore crane operations for all cargo and construction industries supporting Oil and Gas.</p> <p>2. For operators to gain competency for changing career to offshore rigs, vessels and FPSO's.</p>	<p>All Mobile Crane Operators, Crane Supervisors, HSE Personnel in Lifting Operations.</p> <p>Truck and plant operators developing new careers</p>
2.	Safe Use of Lifting Equipment	<p>1. Management, Supervisors, Workforce involved in cargo operations shall have an introduction to lifting operations in general who have little or no knowledge.</p> <p>2. Encourage safe system of work for all cargo, supply, manufacturers, production, exploration and construction industries supporting Oil and Gas.</p>	<p>All Managers, HSE Engineers, Lifting Supervisors, Roustabout, Rough-necks, Store man, Crane Operators, Forklift Operators, Riggers, Quayside supervisors,</p>
3.	Forklift Operation	<p>1. Yard personnel involved in loading unloading freight in relationship with supply to oil and Gas</p> <p>2. Construction, production and offshore stores preventing extreme manual handling by mechanical force by trained and competent persons.</p>	<p>All Forklift Operators, Supervisors, Materials Controller, Assistant Driller, Deck leader/Foreman, Roustabout/Roughneck</p>
4.	Offshore Crane Operation API RP 2D	<p>1. The heart of offshore cargo loading and offloading is crane operations and should also covers Vessels, Rigs, FPSO and fixed units.</p> <p>2. A career move for Roustabouts and Banksmen alike as several years working beside cranes from below encourages good operators given the opportunity.</p>	<p>All Offshore Crane Operators, Crane Supervisors, Deck Pushers, Banksmen and Roustabouts developing career change</p>
5.	Overhead Crane & Hoist	<p>1. For BOP operations offshore.</p> <p>2. Required to develop safe systems of work in oil contractor's in supply, engineering and fabrication warehouses and work sites that is often overlooked as a skill.</p>	<p>All Overhead Crane Operators, Crane Supervisors & HSE Personnel in Lifting Operations.</p>
6.	Lift Planning	<p>1. All lifting operations are required to be Properly planned Adequately supervised Carried out in a safe manner on and offshore and this course can be as a minimum ensuring the basics of reducing risk is passed via training and development</p>	<p>All Lifting Controllers, CPLO, Riggers, Base Operators, Onshore/Offshore Lifting Superintendents, Supervisors, Roughnecks/Roustabout, Crane Operators, Forklift Operators.</p>
7.	Banksman/Slinger	<p>1. All lifting operations involving work with cranes on and offshore require supervision and with this training the Banksman is qualified to do so.</p>	<p>Lifting Superintendent, supervisors, logistics controllers, Crane Operators Riggers, Deck Foreman, Roustabouts/Roughnecks, Quayside personnel, Yard crews</p>

8.	Lifting & Slinging (Practical)	1. A more intense course to international standards association with 40 years in the industry filtering into Nigeria the expertise with involvement of mechanical portable equipment as lever hoists, chain hoists, snatch blocks and crane operations combined.	Lifting Superintendent, Supervisors, logistics controllers, Crane Operators, Riggers, Deck Foreman, and Roustabouts/Roughnecks.
9.	Abrasive Wheels	To give Welders, Pipe Fitters, HSE officers the required expertise when handling rotary and cutting equipment.	All HSE Officers, welders, Pipe Fitters, Electricians, Senior Electricians, Mechanics,
10.	Lifting Equipment Inspection	To improve the knowledge base of equipment inspectors such that the Integrity of Equipment can be ascertained at any time	Deck Crews, Riggers, Supervisors, managers, Store man /Warehouse Operatives
11.	Management of Lifting & Slinging	To ensure the control and planning for all operations in lifting operations that works towards a competency certification on route to CPLO/SLS	Lifting Superintendent, supervisors, logistics controllers, Crane Operators, Riggers, Deck Foreman, Managers, CPLO, SLS
12.	LOLER & PUWER	To give an understanding of regulations associated with lifting operations that have been adopted as industry best practice worldwide and is theoretical only.	Supervisors, Logistics Controllers, Team Leaders, Riggers, Scaffolders, foremen, Welders, Lifting Superintendents, HSE Engineers
13.	Wire Rope Inspection	To give Lifting Equipment Inspectors in depth knowledge on thorough inspection of wire ropes as a great percentage of Crane accidents are caused by wire Rope failures.	Lifting Supervisors and Lifting inspectors
14.	Competent Rigger API RP 2D	To help riggers in offshore environments to safely carry out their operations. It is in Compliance with API RP 2D.	All lifting Superintendent, Supervisors, Logistics controllers, Crane Operators, Rigger, Deck Foreman, Roustabouts/Roughnecks.
15.	Safe Use of Cargo Carrying Units	Common name is CCU a collective name for tanks, containers, open tops, storage boxes, modula units in accordance with the 3 main standards of DNV 2.7.1, BSEN12079 BS7072 and ensuring prior to shipping from location they are packed, documented, free from risk to meet the requirements of the Nigeria petroleum industry regulations	All QAQC Personnel's, Lifting Superintendents, warehouse Supervisors, Riggers, Logistics controllers, Quay Supervisors and Mobile crane operators
16.	Frog Basket and Swing Rope Training	To Ensure no harm to personnel being transferred by personnel basket at sea. This is a relatively new system to the industry and may also be used as emergency carrier if someone is being transferred.	All Persons involved in personnel transfer, Riggers, Supervisors, and users by Management, Supervisors and Workforce & Medics
17.	Deck Crane (Knuckle Boom)	To provide skills for modern type of crane that reduces load swing and can be stowed in more confined areas	All Offshore Crane Operators and Crane Supervisors
18.	Man Ridding Tugger Operations	To provide skills for work within the Derricks and sub-sea areas of offshore installations that cannot be accessed by other means by persons either mechanically or by safe ascend/descend	Deck Crew Personnel's, Drillers, Electricians, Mechanics, Coiled Tubing operators, Wire line operators, Snubbing operators.

19.	MEWP (Mobile Elevated Work Platform) Operation	To provide skills for onshore and offshore access by mechanical aid either scissor or articulated boom that is used for maintenance, access, inspection, survey, dropped object checks, replacement parts.	MEWP Operators, Supervisors, and All involved in working at height Operations
20.	Lorry Loader(Hi Ab)	To provide skills for onshore and offshore smaller type boom crane usually telescopic greater than 1 tonne. This is used by store delivery onshore and placed for change out of machines and or smaller deck operations on smaller water craft supplying and supporting offshore and land resources.	HIAB Operators, Supervisors, Lifting Superintendent, Logistics personnel.
21.	Manual Handling	To helps to reduce the rate at which employees get exposed with occupational Injuries. Statistics shows that most Injuries in the workplace is as a result of lack of Manual Handling training	Lifting Superintendents, Supervisors, forklift Operators, Riggers and Crane Operators
22.	Side loader Operations	To provide skills for shore operations/ Laying of Pipelines.	Side Loader Operators, Supervisors and HSE Personnel's involved in lifting
23.	Cranes (Mobile, Offshore, Overhead & Tower) Inspections	To improves the knowledge base of equipment inspectors such that the Integrity of Equipment can be ascertained at any time. In compliance to industry standards.	Inspection Engineers, Supervisors and Managers
24.	Winches & Powered Hoists Inspection	To improves the knowledge base of equipment inspectors such that the Integrity of Equipment can be ascertained at any time.	Inspection Engineers, Supervisors and Managers