

HEALTH, SAFETY AND ENVIRONMENTAL MANAGEMENT

INDEX

ARTICLE 1 - MANAGEMENT OF HEALTH, SAFETY AND ENVIRONMENT	2
ARTICLE 2 – COMPETENCE OF CONTRACTOR PERSONNEL	6
ARTICLE 3 – SUBSTANCE (AB)USE	7
ARTICLE 4 – SECURITY	7
ARTICLE 5 – SUBCONTRACTS	8
Attachment 1 HSE REQUIREMENTS SPECIFIC TO THIS CONTRACT	8
Attachment 2 COMPANY HSE POLICY	9
Attachment 3 GOLDEN RULES & LIFE SAVING RULES	10
Attachment 4 GLOBAL ENVIRONMENTAL STANDARDS	12
Attachment 5 HEALTH MANAGEMENT STANDARDS	14
Attachment 6 COMPANY DRUG AND ALCOHOL POLICY	16
Attachment 7 LAND TRANSPORT – HSE REQUIREMENTS	17
Attachment 8 LIFTING AND HOISTING - HSE REQUIREMENTS (EP2005-0264)	27

ARTICLE 1 - MANAGEMENT OF HEALTH, SAFETY AND ENVIRONMENT

1.1 MANAGEMENT OF HSE

- 1.1.1 The CONTRACTOR confirms – and on request hands over to COMPANY – that it has a written and implemented Health, Safety and Environment (HSE) policy which is, as a minimum, of a standard comparable to COMPANY's policy (see Attachments for COMPANY HSE policy). The CONTRACTOR further affirms that its HSE policy has been brought to the notice of its employees and is implemented and maintained at all levels in its organisation.

HSE MANAGEMENT SYSTEM

- 1.1.2 The CONTRACTOR shall have a HSE Management System, which complies with the principles outlined in the International Association of Oil & Gas Producers (OGP) guideline (latest version) or an equivalent local industrial or statutory system. The Guidelines can be downloaded from the following public web site:

<http://www.ogp.org.uk/>

Title: HSE Management – Guidelines for working together in a contract environment (reference # 291)

- 1.1.3 This HSE Management System shall be documented, and fully and effectively implemented.
- 1.1.4 If CONTRACTOR's HSE Management System is certified it must remain certified for the duration of the contract. Contractor shall inform COMPANY about any shortcoming that may have been observed during the periodic certification audits. If the certificate is suspended, withdrawn or declared invalid, contractor shall inform COMPANY to this effect immediately.

HSE PLAN

- 1.1.5 The CONTRACTOR shall prepare and submit for COMPANY review an HSE plan in accordance with "Attachment 9 – HSE Plan Checklist for Small Contracts" which covers all WORK under the CONTRACT and, when relevant, legal required HSE documents,. This shall be submitted to COMPANY prior to the EFFECTIVE DATE of the CONTRACT or when physical work commences, whichever is the earlier.

The plan shall include the following over and above the requirements set out in Attachment 9 – HSE Plan Checklist for Small Contracts:

- 1 - the CONTRACTOR's measurable and achievable annual targets for HSE performance which are compatible with those of the COMPANY for the location, including:
 - Lost Time Injury Frequency (LTIF),
 - Total Reportable Case Frequency (TRCF),
 - Total Reportable Occupational Illness Frequency (TROIF)
 - Total days lost due to injury,
 - Total days lost due to occupational illness,
 - Performance criteria for Environmental Emissions and Waste
- 2 - HSE improvement initiatives describing any current or proposed HSE improvement initiatives or programmes relevant to the WORK.
- 3 - an Assurance plan including:
 - the Audit and review plan (ref. 1.9.1)
 - a Schedule of HSE management activities to be undertaken during mobilisation, execution of the WORK and demobilisation (e.g. HSE meeting structure and site visits/inspections)

RISK MANAGEMENT OF HSE

- 1.1.6 The CONTRACTOR shall employ best practice methods in identifying, assessing and controlling hazards. These methods shall be documented. Priority should be given to reduce probability, but consequence reducing measures shall be defined in case of failing controls.
- 1.1.7 The CONTRACTOR shall take all practical steps to manage hazards and risks. The CONTRACTOR shall submit for COMPANY acceptance its risk acceptance criteria.

HSE-CASE

- 1.1.8 The CONTRACTOR shall submit (a) HSE case(s) relevant to the WORK or (b) shall contribute to the HSE case(s) drafted by the COMPANY.

1.2 ENVIRONMENTAL MANAGEMENT

MINIMUM ENVIRONMENTAL STANDARDS

- 1.2.1 CONTRACTOR shall comply with the COMPANY's Minimum Environmental Standards attached herein.

CHEMICALS

- 1.2.2 Not applicable.
- 1.2.3 The CONTRACTOR shall ensure that all relevant information is available on the health risk or fire, explosion and environmental hazards posed by chemical products used in the work. This includes updating and distribution of the Material Safety Data Sheets to all relevant users.
- 1.2.4 Not applicable.
- 1.2.5 Contractor shall obtain written permission from COMPANY prior to supply, store and/or use of chemicals on COMPANY premises, sites or installations.
- 1.2.6 The CONTRACTOR shall systematically and regularly evaluate, monitor and document chemical usage to ensure minimal discharges and optimal operation and accurate recording.
- 1.2.7 If the CONTRACTOR manufactures or imports chemicals, it shall comply with prevailing statutes as well as guidelines on evaluating and classifying chemicals.
- 1.2.8 The CONTRACTOR shall avoid the use and discharge of chemicals with a potential for long-term impact on the environment or chemicals, which are considered potentially harmful in other respects.

WASTE DISPOSAL

- 1.2.9 Not applicable.
- 1.2.10 Not applicable.
- 1.2.11 The CONTRACTOR shall act to minimise the total quantity of waste resulting from execution of the WORK.

1.3 OCCUPATIONAL HEALTH MANAGEMENT

- 1.3.1 The CONTRACTOR shall comply with the COMPANY's Health Management Standards attached herein.
- 1.3.2 The CONTRACTOR shall ensure that suitable Occupational Health assessments are carried out and implemented to ensure hazards are avoided or, where this is not practicable, to take all practical steps to manage these hazards and risks.

MEDICAL FITNESS

- 1.3.3a The CONTRACTOR shall ensure that all CONTRACTOR PERSONNEL engaged in the WORK are medically fit for the job to be undertaken in compliance with the COMPANY's Fitness To Work Standard.
- 1.3.3b Not applicable.
- 1.3.4 The Contractor shall ensure that all CONTRACTOR PERSONNEL engaged in the following identified worker groups are medically fit, in compliance with the COMPANY's Fitness To Work Standard:-
- Offshore Workers
 - Food Handlers
 - International Business Travellers
 - Crane Drivers
 - Breathing Apparatus (BA) and Respiratory Users
 - Drivers of Large Vehicles
 - Workers exposed to loud damaging noise

TRANSPORTATION OF MEDICINES OFFSHORE

1.3.5 Not applicable.

1.4 HSE MANAGEMENT SYSTEM INTERFACING

1.4.1 The CONTRACTOR shall have a documented management process capable of interfacing with and providing data for input into the COMPANY's HSE Management System.

CONTRACTOR/ COMPANY INTERFACING

1.4.2 Not applicable.

CONTRACTOR/SUBCONTRACTOR INTERFACING

1.4.3 Not applicable.

CONTRACT HSE MANAGEMENT SYSTEM INTERFACE DOCUMENT

Not applicable.

1.5 ACTION TO RECTIFY BREACHES

Not applicable.

1.6 HSE PERFORMANCE REPORTS

1.6.1 The CONTRACTOR shall submit a Monthly HSE Performance Report to the COMPANY REPRESENTATIVE. This report may include the following information:

- General HSE reporting of outcomes against the targets set in the interface document;
- A brief description of all incidents and perceived risks (including near misses and potential incidents being rated as 'high' or 'medium');
- A report giving total working hours for CONTRACTOR / SUBCONTRACTOR PERSONNEL engaged in the WORK, broken down by site/location;
- Lost Time Injury Frequency (LTIF);
- Total Reportable Case Frequency (TRCF);
- Total Reportable Occupational Illness Frequency (TROIF);
- Chemicals used for drilling, engineering and maintenance;
- Chemicals used for production;
- Usage of water and energy;
- Emissions to air;
- Disposal of liquid and solid wastes;
- Discharge of water;

The format and the content of the HSE Performance Reports will be discussed and agreed with the COMPANY prior to the commencement of the WORK.

1.6.2 Where applicable, at the end of each calendar year during execution of the WORK the December Monthly Report shall be submitted as the Annual HSE Performance Report.

1.6.3 The final Monthly Report shall be submitted as the closeout HSE Performance Report.

1.6.4 The underlying records of the HSE Performance Reports shall be kept by the CONTRACTOR for a period of at least five (5) years.

1.7 KNOWLEDGE AND KNOWLEDGE TRANSFER

1.7.1 The CONTRACTOR shall, prior to commencement of the WORK, inform any member of CONTRACTOR PERSONNEL (including executive supervisory personnel), about relevant HSE regulations, CONTRACTOR's and COMPANY's HSE requirements, instructions, information, and the like, which are or could be related to the WORK. Such regulations, requirements, instructions and information shall be communicated in such a manner that any member of CONTRACTOR PERSONNEL can easily understand the requirements. The COMPANY shall communicate to the CONTRACTOR its specific requirements. The CONTRACTOR shall also have available its own HSE instructions, which shall be given to all CONTRACTOR PERSONNEL entering into employment with the CONTRACTOR.

1.7.2 The CONTRACTOR shall participate in relevant COMPANY HSE meetings.

1.7.3 The CONTRACTOR shall ensure that, during the performance of the WORK, efficient HSE communication and consultation shall take place within its own organisation. Such HSE communication and consultation shall take place by means of toolbox meetings prior to the start of the WORK, worksite HSE meetings with all parties involved (including COMPANY and third parties) on regular intervals.

1.7.4 Transfer of HSE knowledge shall form part of the CONTRACTOR's closeout report to the COMPANY as meant in clause 1.6.3. This report must as a minimum address the following:

- How the CONTRACTOR's HSE plan functioned (where such plan has been drawn up)
- How the Interface process functioned
- Unforeseen problems – how these were overcome and recommended future approaches
- Underlying causes of reported high potential incidents and how they have been followed-up.
- Underlying causes of reported lost time injuries and work related illness, and how such cases have been followed-up.
- Positive HSE aspects which should be considered in future activities
- Any damage to equipment and recommendations on avoiding similar damage in future operations
- Suggested improvements to work routines

1.8 INCIDENT NOTIFICATION, REPORTING, INVESTIGATION, FOLLOW-UP AND STATISTICS

INCIDENT NOTIFICATION

1.8.1 The CONTRACTOR shall have a structured and documented incident reporting system and shall, in addition to its obligations to report under the New Zealand Health and Safety in Employment Act 1992, notify the COMPANY immediately of any incident, near misses and potential incident being rated as 'high' or 'medium' arising from the CONTRACTOR's or its SUBCONTRACTOR's activities which has caused, had the potential to cause, or could in the future cause:

- any WORK related injury or illness to a COMPANY, CONTRACTOR or SUBCONTRACTOR employee or Third Party,
- harm to the environment,
- any damage to, or loss of COMPANY, CONTRACTOR, SUBCONTRACTOR or Third Party assets.

1.8.2 The CONTRACTOR shall comply with the COMPANY's procedures when submitting the incident notifications to the COMPANY within the timeframe specified in the above-mentioned procedures.

INCIDENT INVESTIGATION, REPORTING AND FOLLOW-UP

1.8.3 The COMPANY shall have the right to investigate any of the incidents described in Clause 1.8.1, wherever they occur, and shall have unrestricted access at all reasonable times to the facilities, equipment, materials and records of the CONTRACTOR and the SUBCONTRACTOR(S) for this purpose (subject only to any statutory or contractual obligation prohibiting either access to the facilities or the disclosure of any such records by the CONTRACTOR).

The CONTRACTOR shall include in all SUBCONTRACTS rights of access for the COMPANY as described herein.

1.8.4 The CONTRACTOR shall comply, and co-operate fully and participate as necessary with the COMPANY in any COMPANY investigation of incidents.

Nothing in this Clause shall prevent the CONTRACTOR investigating such an incident and, in such cases, they shall provide a copy of their completed incident report to the COMPANY on request.

1.8.5 The CONTRACTOR shall implement all applicable recommendations arising from incident investigations and shall ensure that the findings are fully communicated to service provider and/or SUBCONTRACTOR PERSONNEL.

1.9 HSE AUDIT, REVIEWS AND INSPECTIONS

1.9.1 The CONTRACTOR shall perform audits, reviews and inspections on the worksite when required by the CONTRACTOR's HSE Management System or by the COMPANY.

1.9.2 Not applicable.

1.9.3 Reports of audits, reviews and inspections shall be submitted upon request, to COMPANY.

1.9.4 CONTRACTOR shall co-operate with any HSE audit, review or inspection carried out by COMPANY. COMPANY shall inform CONTRACTOR on the results.

ARTICLE 2 – COMPETENCE OF CONTRACTOR PERSONNEL

COMPETENCE

- 2.1a The CONTRACTOR shall ensure that only competent CONTRACTOR PERSONNEL shall be provided for the performance of the WORK in compliance with the COMPANY's Competency Assurance Process.
- 2.1b Not applicable.
- 2.2 The CONTRACTOR shall ensure that all supervisory CONTRACTOR PERSONNEL have formal supervisory training in HSE matters.
- 2.3 Not applicable.
- 2.4 The CONTRACTOR shall implement and maintain a system that assures competence of CONTRACTOR PERSONNEL. The CONTRACTOR shall furnish information about the system upon request by the COMPANY.
- 2.5 The CONTRACTOR shall avoid turnover of CONTRACTOR PERSONNEL where possible and shall obtain COMPANY's written approval prior to replacing any member of KEY CONTRACTOR PERSONNEL and/or any member of CONTRACTOR PERSONNEL who perform work involving a specific risk.

TRAINING

- 2.6 The CONTRACTOR shall implement and maintain a system that records the training of CONTRACTOR PERSONNEL. The content and duration of any in-house training courses shall be documented. The CONTRACTOR shall furnish information about the system and/or records of training upon request by the COMPANY.
- 2.7 Unless specified otherwise herein, all training of CONTRACTOR PERSONNEL shall be at the CONTRACTOR's cost.
- 2.8 For those roles where no recognised competence standards exist, the CONTRACTOR shall provide information on the selection criteria and method used to provide assurance of individual competence. These may include reference to the selection process used prior to employment, any subsequent appraisals of performance/competence and any relevant training and experience.
- 2.9 The CONTRACTOR shall evaluate and document if one of the areas of activity require special or additional training in respect of potential risks. Should the special activity involve radioactivity, asbestos removal, chemicals, unacceptable noise levels or other occupational health hazards, methods for identifying, assessing and controlling such hazards shall be documented.
- 2.10 Not applicable.

PERSONAL PROTECTIVE EQUIPMENT

- 2.11a The CONTRACTOR shall provide CONTRACTOR PERSONNEL with sufficient Personal Protective Equipment and shall ensure that such equipment is maintained in a good condition. Such equipment shall conform to both the COMPANY's and New Zealand standards, whichever is the most stringent, and shall be used in accordance with the law and good industrial practice. CONTRACTOR shall give instructions for use and shall ensure that SUBCONTRACTORS act likewise.

The minimum Personal Protective Equipment required to be worn at all times when working on a STOS site is : Fire Retardant overalls with hi viz, Hardhat with chin strap, Class 5 earmuffs, Leather rigger gloves, Eye glasses (medium impact) with side shields, Lace up safety boots with mid sole protection. Additional specific task required PPE shall be identified in the hazard identification and PTW before the task is undertaken.

- 2.11b Not applicable.
- 2.12 Not applicable.
- 2.13 The CONTRACTOR shall ensure that it is aware of COMPANY's emergency procedures. CONTRACTOR shall instruct all CONTRACTOR PERSONNEL as to the compliance with COMPANY's instructions during emergencies.

EMERGENCY RESPONSE

- 2.14 The emergency response training of CONTRACTOR PERSONNEL shall comply with the COMPANY's approved standards, including refresher courses and any statutory requirements.

- 2.15 CONTRACTOR PERSONNEL travelling offshore shall have a valid (within 3 years) HUET (Helicopter Underwater Escape Training-NZQA 9580/9604, including cold water and re-breather) or BOSIET (Basic Offshore Safety Induction and Emergency Training-OPITO) competence certificate AND current FTW (Fitness to Work) offshore medical.
- 2.16 The CONTRACTOR shall make available CONTRACTOR PERSONNEL to participate in periodic drills, instructions in first-aid, survival, life-saving and fire-fighting as may be requested and conducted from time to time by the COMPANY.
- 2.17 The COMPANY reserves the right to nominate CONTRACTOR PERSONNEL to positions within the (local) emergency response organisation.

ARTICLE 3 – SUBSTANCE (AB)USE

- 3.1 The CONTRACTOR shall ensure that CONTRACTOR PERSONNEL do not at any time partake of, be under the influence of, and do not transport to or have in their possession on or at any COMPANY premises, sites or installations, including COMPANY-provided transportation, drugs, alcohol, natural stimulants or other similar intoxicating substances, other than for bona fide medical reasons.
- 3.2 For offshore personnel, in the case of bona fide medical reasons CONTRACTOR PERSONNEL shall notify the COMPANY Medic if they are required to take any of the substances listed in Clause 3.1 offshore. The COMPANY Medic may at their discretion request evidence from a medical practitioner to support such use.
- 3.3 Any of CONTRACTOR's PERSONNEL found contravening Article 3.1 will be removed from all COMPANY's premises, sites or installations, including COMPANY-provided transportation with immediate effect and COMPANY shall not be liable for any charges or consequences arising directly or indirectly out of such removal.
- 3.4 The CONTRACTOR shall ensure that CONTRACTOR PERSONNEL comply with the COMPANY's Drug and Alcohol Policy, as included in Attachment 6.

ARTICLE 4 – SECURITY

PERSONNEL IDENTIFICATION

- 4.1 The COMPANY reserves the right to require all CONTRACTOR PERSONNEL seeking to enter a COMPANY premises, site or installation or embarking for an offshore installation to produce a suitable form of identification. The COMPANY shall provide COMPANY controlled access cards for onshore installations, where applicable.
- 4.2 Any person not complying or unwilling to comply with the requirements above will not be permitted access to or shall be removed from the COMPANY premises, site or (offshore) installation and the COMPANY shall not accept liability for any costs arising directly or indirectly out of such circumstances.

COMPANY SYSTEM FOR IDENTIFICATION

- 4.3 CONTRACTOR PERSONNEL requiring access to either a COMPANY-operated offshore or port installation shall comply with the requirements of the COMPANY system used to identify all personnel working offshore for emergency purposes. CONTRACTOR PERSONNEL not complying with this requirement will not be permitted to access offshore or port facilities.
- 4.4 For the purpose of controlling access to a COMPANY-operated offshore or port installation, any of the following credentials are acceptable for establishing identity:
- A military identification card;
 - An identification card issued by the NZ government department, government agency or the NZ Defence Force;
 - A drivers licence issued by the NZ LTSA;
 - A seafarer's identity document issued by a contracting government or flag state administration;
 - A valid passport;
 - An identification card issued by a port facility operator;
 - An identification card issued by a recognised company, union or trade association;
 - Other forms of identification approved by the MSA.

The identification as listed above is only acceptable if it contains -

- The holders full name; and
- The holders photograph; and
- The name of the issuing authority.

The identification must be protected against tampering e.g. must be laminated.

ARTICLE 5 – SUBCONTRACTS

- 5.1 The CONTRACTOR shall ensure that its SUBCONTRACTORS have an HSE management system, which fulfils the requirements, set out in Clause 1.1.
- 5.2 The CONTRACTOR shall – even if not mentioned specifically in the previous clauses – include suitable equivalent clauses in subcontracts to meet the requirements of Articles 1 to 4 above and Attachment 1 (if applicable).

Attachment 1 HSE REQUIREMENTS SPECIFIC TO THIS CONTRACT

Examples of specific items which may need to be addressed include, but are not limited to, the following:

- Site Safety Supervisor
- Campsite requirements
- HSE meetings
- HSE inductions
- Land Transport
- Lifting and Hoisting
- Marine
- Aviation
- Hazards specific to the contract
- Applicable Shell Global Processes (GP)

Note:

1. Where relevant HSE Standards and Procedures have been supplied to the Contractor. Any relevant updates will also be supplied to the CONTRACTOR by the COMPANY as they occur.
2. The COMPANY has additional material such as specific Procedures, Guidelines and Tools that will be made available as and when necessary.



COMMITMENT AND POLICY ON HEALTH, SECURITY, SAFETY, THE ENVIRONMENT AND SOCIAL PERFORMANCE

COMMITMENT

In Shell Todd Oil Services we are all committed to:

- Pursue the goal of no harm to people;
- Protect the environment;
- Use material and energy efficiently to provide our products and services;
- Respect our neighbours and contribute to the societies in which we operate;
- Develop energy resources, products and services consistent with these aims;
- Play a leading role in promoting best practice in our industries;
- Manage HSSE & SP matters as any other critical business activity; and
- Promote a culture in which all employees share this commitment.

In this way we aim to have an HSSE & SP Performance we can be proud of, to earn the confidence of customers, shareholders and society at large, to be a good neighbour and to contribute to sustainable development.

POLICY

In Shell Todd Oil Services

- Has a systematic approach to HSSE & SP management designed to ensure compliance with the law and to achieve continuous performance improvement;
- Sets targets for improvement and measures, appraises and reports performance;
- Requires contractors to manage HSSE & SP in line with this policy;
- Requires joint ventures under its operational control to apply this policy, and uses its influence to promote it in its other ventures;
- Engages effectively with neighbours and impacted communities; and
- Includes HSSE & SP performance in the appraisal of all staff and rewards accordingly.

A handwritten signature in blue ink, appearing to be "Rob Jager", written over a horizontal line that has a decorative, wavy end on the right side.

Rob Jager
General Manager, Shell Todd Oil Services

GROUP GOLDEN RULES

YOU & I

COMPLY > INTERVENE > RESPECT

COMPLY WITH THE LAW, RULES, STANDARDS AND PROCEDURES

(What laws, rules, standards and procedures apply where you and I (or our people) work, Do you and I (and our people) **COMPLY** with them)

INTERVENE ON UNSAFE OR NON-COMPLIANT ACTIONS

(Do you and I (and our people) **INTERVENE** if we see something unsafe or non-compliant, does 'SAFETY takes Priority')

RESPECT OUR NEIGHBOURS

(Do you and I (and our people) know what our neighbours think? Do you and I (and our people) **RESPECT** them)

Golden Rules Explained

STOS has the above three Golden Rules which we expect all our employees and contractor employees to comply with. The Golden Rules are covered in STOS HSE Inductions and are non negotiable.

Life Saving Rules Explained

All Shell operating units worldwide (including STOS in New Zealand) adopted the 12 Life Saving Rules on 31 March 2009. Quite simply the 12 Life Saving Rules have been developed to save lives.

Refer next page for the full list of the 12 Life Saving Rules.

We are aware that the majority of incidents that harm people in Shell occur during "routine tasks" i.e tasks that we do every day during our normal work. From global incident trending we have identified the key 12 tasks that cause these incidents and have developed 12 Life Saving Rules, which we believe if complied with, will prevent people being harmed.

The 12 Life Saving Rules are non negotiable for anyone working or visiting a STOS site. These 12 Life Saving Rules must be complied with and if you are found not to be complying with these rules you choose not to work for STOS. Blatant disregard of these rules will not be tolerated and will result in the individual(s) breaching these rules being removed from STOS sites.

The 12 Life Saving Rules are covered in STOS HSE Inductions.

12 Group Life Saving Rules

Stick to the Rules and Stay Safe

1: Work with a valid work permit where required



2: Conduct gas tests when required

3: Verify isolation before work begins and use the specified life protecting equipment



4: Obtain authorisation before entering a confined space

5: Obtain authorisation before overriding or disabling safety critical equipment



6: Protect yourself against a fall when working at height

7: Do not walk under a suspended load



8: Do not smoke outside designated areas

9: No alcohol or drugs while working or driving



10. Wear your seat belt

11. While driving, do not use your phone and do not exceed speed limits



12: Follow prescribed Journey Management Plan

Attachment 4 GLOBAL ENVIRONMENTAL STANDARDS

Global Environmental Standards

The purpose of Group Global Environmental Standards is to form a baseline for continuous improvement as required by the Group HSE Commitment and Policy.

In addressing the Group's requirements with respect to environmental protection, reference should also be made to the Group Biodiversity Standard and related commitments on protected areas.

Business Executive Directors are responsible for implementation of these standards. Compliance is reported annually through the Business Assurance Letter and tested by HSE management system (HSE-MS) audits.

Ships that are owned, operated or managed by Shell companies shall comply with international regulations (MARPOL).

1. Greenhouse gases

All major installations* shall manage GHG emissions, taking into account the carbon value, to maximise the business opportunities by:

- Implementing 5-year greenhouse gas (GHG) management plans which capture the inherent value of GHG emission reduction opportunities within the installation according to the relevant market.
- Quantifying GHG emissions at a frequency suitable for the relevant legal framework, but reporting at least annually.
- Forecasting GHG emissions 10 years ahead at least annually.

2. External certification of the environmental component of HSE management systems against a recognized, independent system standard

The environmental component of the HSE-MS of all major installations having significant environmental risks shall be certified against a recognised, independent system standard.

All ships that are owned, operated or managed by Shell companies shall be accredited under the Management Code for the Safe Operation of Ships and for Pollution Prevention ("ISM Code").

3. Impact Assessment, engagement and public disclosure

The management of all major new activities and installation developments or significant modifications shall recognize the consequences of the development, whereby:

- Impact Assessments (IA) shall be conducted covering environmental, social and health aspects and shall be based on internationally accepted standards (e.g. World Bank Policy).
- The management of identified environmental, social and health aspects shall comply with the appropriate Shell Group and Business standards.
- Stakeholder engagement shall be an integral part of any IA.
- Information on IA shall be disseminated in ways that are appropriate for the various stakeholder groups.

Note

* Major installations include Shell operated crude oil and natural gas terminals, gas plants, major offshore platforms, major flow stations, floating production and storage vessels, refineries and chemical manufacturing facilities.

4. CFCs and Halons

Use and inventories of Halons and hard CFCs^y shall be eliminated in all operations by 2010 in accordance with the Montreal Protocol.

New installations shall not be fitted with CFCs or Halons or related substances listed to be banned under the Montreal Protocol within 10 years.

5. Continuous flaring and venting (EP)

New installations shall be designed not to flare or vent hydrocarbons continuously for disposal.

For existing installations, disposal by continuous venting is not allowed and disposal by continuous flaring shall be eliminated by 01.01.2008. Derogations shall only be permitted when endorsed by qualified professionals and approved by the Head of HSE in EP and by the Group Vice President HSE.

Since it is recognised that the exceptionally challenging environment in Nigeria will prevent installations in that country from meeting the general target date of 01.01.08, such installations shall implement this paragraph as quickly as reasonably possible.

6. SO_x and NO_x

The standards for SO_x and NO_x annual emissions at major installations outside the Organisation for Economic Cooperation and Development (OECD) shall fall within the ranges of those applicable at major installations within the OECD.

SO_x and NO_x emissions in new major installations shall meet the World Bank Onshore Standards.

7. Water

Produced water and all process effluents shall only be discharged to a receiving aquatic environment with which it is physically and chemically compatible, whilst:

- All process effluent shall, if necessary, be subjected to waste water treatment to meet local regulations or, if there are no local regulations, to comply with relevant Shell guidance. For new major installations World Bank Standards shall be met in addition to complying with local requirements or (in the absence of local regulations) Shell guidance.
- In the open sea the monthly average oil content of produced water shall not exceed a level of 30 mg/l in line with existing Gulf of Mexico and North Sea standards.
- Within the coastal zone^φ the monthly average oil content of produced water discharged to sea shall not exceed 15 mg/l oil in water.
- The standard for "oil in effluent water" annual discharges at refineries and chemical manufacturing installations outside the OECD shall fall within the range of those applicable at such installations within the OECD. For new refineries and chemical manufacturing installations, World Bank Standards shall be met in addition to local regulations or (in the absence of local regulations) Shell standards.

Note

^Y CFCs are here defined as those substances listed in Annexe A, Group I, and Annexe B, Group I of the Montreal Protocol. Halons are those substances listed in Annexe A, Group II of the same.

^φ The coastal zone is defined as the sea area extending 5 km from the shoreline unless specified otherwise in legislation, licence or contractual arrangements.

8. Drilling fluids

Oil-based muds (OBMs) and cuttings shall not be discharged to surface waters. OBMs may be used provided that self-contained systems are in place to return the oily wastes to shore for recycling or disposal.

The discharge of Synthetic Based Mud (SBM) to sea is not allowed and rigs shall be equipped to contain mud losses. SBM cuttings can only be discharged if it can be demonstrated either in laboratory tests or under comparable field conditions that they fulfil toxicity and biodegradability criteria as stipulated in the EPA 2001 Guidelines for the Gulf of Mexico.

9. Soil and groundwater monitoring/remediation

All onshore major installations shall have been assessed for soil and groundwater contamination. Where soil and/or groundwater contamination has been detected, risk-based mitigation measures shall be demonstrably in place for any necessary control and/or remediation, including control mechanisms to minimise the risk of migration of contaminants off-site.

10. Energy use and efficiency

Energy use and energy efficiency shall be actively monitored at all major installations and 5-year Energy Management Plans shall be in place that describe the continuous improvement process to maximise the efficiency of energy use and throughput.

A demonstration of how energy efficiency considerations have been included in the design of the project shall be made for new and modified major installations.

11. Waste

Management and control systems shall be in place in all major installations to minimise waste. Hazardous and non hazardous wastes shall be identified, segregated, appropriately stored and managed including:

- All waste shall be disposed of by using, where appropriate, government approved disposal sites, methods and contractors.
- Hazardous waste shall be disposed of ensuring segregation from other waste is maintained and disposal sites shall meet the appropriate World Bank Standards.
- Land farming shall only be done after consideration of the risks of potential leaching of hazardous compounds and build up of metals, and appropriate mitigation measures are in place to manage the risks.
- All trans-national movements of wastes shall conform to the requirements of the Basel Convention.

12. Product stewardship and product safety data sheets

All new (manufactured or purchased) products shall be assessed considering environmental, health and safety risks. Any necessary emergency response plans and other controls required to manage those risks shall be implemented.

A full Material Safety Data Sheet (MSDS), in appropriate languages, shall be available for all marketed chemical and oil products. MSDSs shall provide, amongst other things, guidance on safe product handling and disposal and shall, unless local legislation or codes of practice dictate otherwise, use the ISO format and be based on EU, US or comparable norms.

An MSDS shall be available on site for potentially hazardous substances in use and accessible to staff.

13. Spill response preparedness

Plans shall be in place to deal with spills arising from the activities of a Company/Business Unit/site. These plans shall: i) link to a national oil and chemical spill response plan, which includes interfaces with the relevant local authorities and ii) comply with the Group MOSAG 'Guidelines for Shell Companies on Preparedness, Response and Compensation for Oil and Chemical Spills'.

CAUTIONARY NOTE

These standards are intended to direct Shell staff and employees in the performance of their duties.

They are not intended for investors, and should not be relied on when considering whether to buy, retain or sell shares in any Shell company.

Attachment 5 HEALTH MANAGEMENT STANDARDS

Health Management Standard (HMS)

HMS 1 – Health Risk Assessment

- Management programmes are to be in place to assess, control and document those health risks arising from chemical, physical, biological, ergonomic and psychological hazards associated with the work environment which have been identified as potentially High or Medium on the Risk Assessment Matrix.
- Health Risk Assessments are to cover all activities, including new projects, acquisition, closure, divestment and abandonment of facilities.
- Health Risk Assessments are to be carried out by competent persons in line with good practice as described in the Group guide "Health Risk Assessment".
- Exposure monitoring and health surveillance programmes are to be implemented where the need is identified by Company or Governmental requirements.
- Results of mandatory Company or Governmental exposure monitoring and health surveillance are to be recorded.

HMS 2 – Health Impact Assessment

- Annual TROIF data are to be reported for company employees with a break down into the 10 illness categories in line with the guidance contained in the “Group HSE Performance Monitoring and Reporting” guide.
- All health incidents with significant impact, including non-accidental death cases, as defined in the Group guide on “Incident Classification and Reporting” are to be reported and investigated.

HMS 3 – Monitoring of Health Performance and Incident Reporting and Investigation

- A Health Impact Assessment is to be made in conjunction with any Environmental and Social Impact Assessments that are required for all new projects, major modifications and prior to abandonment of existing projects where there is the potential to impact on the health of the local community and/or company and contract workers and their families.

HMS 4 – Human Factors Engineering In New Projects

- Human factors engineering principles are to be considered and applied during the early design stage of new facilities projects where design can have a critical impact on equipment usability and user safety or health.

Where, Human Factors Engineering (HFE) and Ergonomics Services means the following:-

Correct specification of the operator/machine interface will save money, ensure effectiveness, create a safer workplace and enhance ease of performance. We offer the following services (HFE fact sheets for each element can be provided by the Company on request):-

- Embedding HFE best practices in project management system documentation
- HFE training at all levels, including practical syndicate workshops
- Early design stage HFE scoping for projects including investment justification
- Execution and/or supervision of HFE work scopes including
- Design and engineering
- Facility, plant and equipment design (FEEEM and IVA analysis)
- Building, control room and innovative office design
- IT systems design
- Management of human error in design and accident investigation
- Health ergonomics
- Prevention of RSI and other musculo-skeletal disorders
- Operational phase ergonomics input
- Audits and reviews
- Post Implementation Review (PIR) and evaluation of system efficiency
- MHMS compliance by incorporating HFE in projects at the appropriate stage

HMS 5 – Product Stewardship

- The hazards relating to manufacturing, storage, transportation, use and disposal of existing, new, reformulated and re-branded products are to be assessed prior to marketing or supply.
- The necessary information and advice to minimise risks are to be provided to employees, contractors and customers.

HMS 6 – Fitness to Work

- Minimum fitness for duty standards are to be established and applied for specific work and working conditions where there are critical occupational health or safety requirements.
- Appropriate health-related policies are to be in place encompassing, as a minimum, the use of alcohol and drugs, and other substances that may impair performance.

HMS 7 – Local Health Facilities and Medical Emergency Response

- Plans are to be in place to provide company employees access to medical services which meet acceptable standards in relation to risks posed by the special nature or location of their employment.
- Plans are to be in place to respond to medical emergencies which meet the requirements set out in the Group guide “Medical Emergency Guidelines for Management” (which can be provided by the Company on request).

Attachment 6 COMPANY DRUG AND ALCOHOL POLICY

Policy

Shell in New Zealand 'Drug and Alcohol Policy' (attached) is the governing COMPANY Policy and shall be complied with by the CONTRACTOR.

The Shell in New Zealand Limited 'Drug & Alcohol Guidelines and Procedures' (and any relevant updates as they occur) will be supplied to the CONTRACTOR by the COMPANY. This will help ensure the CONTRACTOR can (as a minimum) meet the Drug and Alcohol policy requirements.



Shell in New Zealand Drug and Alcohol Policy

Shell is committed to providing a safe and productive workplace by eliminating conditions and work practices that could lead to personal injury, equipment and other property damage or pollution of the environment.

Shell is committed to providing a workplace free of hazards associated with the use of drugs and/or alcohol. The use of illegal drugs, misuse of legal drugs, or other substances and the misuse of alcohol can impair fitness to work and can be a serious threat to safety, health, the environment, and productivity. Shell's objective is that all employees recognise this threat and eliminate the associated risks.

In support of our commitment Shell will:

- Create a safe working environment by the elimination of the hazards associated with inappropriate alcohol and drug use.
- Provide a range of preventative, educational and rehabilitative measures to overcome problems that could impair an individual's safety and performance at work.
- Manage fairly and constructively people who are deemed unfit for work as a result of alcohol or drug use.

Underpinning this policy Shell expects that each person is accountable for:

- Ensuring that they are fit to work and in particular unimpaired by drugs or alcohol.
- Raising concerns about their own fitness for work with their line manager.
- Raising concerns about another person's fitness for work with that person and their line manager.
- Notifying their line manager of any situation where this policy may apply or has been breached.

This drug and alcohol policy forms an important part of Shell's Health Safety Environment (HSE) and Security Policies.

This Policy applies equally to all Shell related businesses in New Zealand and its contracting arrangements.

A handwritten signature in blue ink, appearing to read 'Rob Jager', is located above the printed name.

Rob Jager
Country Chairman

Attachment 7 LAND TRANSPORT – HSE REQUIREMENTS

- 1. Group Road Safety Standards (RSS)**
- 2. Vehicle Specifications (EP 2005-0261-SP-01)**

1 Group Road Safety Standards (RSS)

Background

Driving related accidents are the single largest cause of fatalities in Shell companies.

Purpose

The main objective of the Group Road Safety Standards is to reduce, and ultimately eliminate, the number of serious road traffic incidents and fatalities.

Scope

These standards apply to all road transport activities for any Shell company including but not limited to:

- all company and contractor vehicles and their drivers operating on company premises;
- all company and contractor vehicles and their drivers operating on public roads and in public areas on company business; and
- all transport activities including personnel and freight movements, and mobile plant (drilling trucks, seismic vibrator trucks, etc) activities.

Exceptions to applying these standards shall be approved by the Group head of HSE or his delegate and documented in the HSE management system.

Requirements

1. Occupants of any vehicle shall use seatbelts at all times. All vehicles (owned, leased or rented) must be fitted with effective seat belts for each occupant. Exception to this requirement is for public transportation in which seat belts are not available (airport busses, etc).
2. Drivers shall be appropriately licensed, trained, and have the functional capacity to operate the vehicle. Professional drivers³ shall have attended an accredited defensive driving course.
3. Drivers shall neither initiate nor answer a mobile telephone call while driving a vehicle (this includes text messaging and the use of hands-free devices).
4. Drivers shall not operate a vehicle while under the influence of alcohol, drugs, narcotics or medication that could impair the driver's ability to safely operate the vehicle.
5. Drivers shall not allow unauthorised passengers in the vehicle.
6. Drivers shall not operate vehicles unless appropriately rested and alert and shall not exceed prescribed driving and duty hours as specified in law or by Shell standards, whichever is more stringent. Professional drivers³ shall meet Shell Group Fitness to Work requirements.
7. Managers shall periodically question the amount of journeys with the intent to eliminate journeys where possible.
8. A Safe Journey Management Plan shall be implemented where a local risk assessment identifies such control to be necessary, and for all journeys in high risk environments⁴.
9. Shell Businesses and Functions shall determine, based on risk assessment, which company owned, contracted or leased vehicles shall be fitted with In Vehicle Monitoring Systems (IVMS) or Vehicle Data Recorders (VDR) that produce journey data to be analysed and fed back to the drivers.
10. Company owned, contracted or leased vehicles (if under contract for more than 3 months) shall be fit for purpose based on an assessment of usage, and be maintained in safe working order in line with manufacturers' specifications and local legal requirements. As a minimum they shall meet local legislation and include seatbelts, headrests⁵, airbags^{1,5}, ABS⁵, side impact protection^{1,5}, reversing alarm² and under-run protection².

11. Company and contractors' management systems shall include requirements for managing Road Transport Safety.
 1. For light duty vehicle
 2. For heavy good vehicles and busses where available
 3. Any person primarily employed to drive vehicles
 4. Remote location work where the tier 2 response time requirements (Professional patient stabilisation prior to transport (Medevac) within 1 hour) of the Group 'Medical Emergency Guidelines for Management' cannot be met or in other environments where a risk assessment (including security risks) has determined that additional controls are required.
 5. Not applicable to vehicles that only operate on specific sites with controlled speed zones less than 35 KPH and local road transport safety procedures in place.

2. Vehicle Specifications

Extracts from Group "Manage Logistics - Road Transportation HSE EP2005-0261 – SP-01"

2.1 Requirements for Light Vehicles

Definition: **Light Vehicle (LV)**

Any motor *Vehicle* having a *Kerb Weight* less than 4000 kg or *Gross Vehicle Weight* less than 7500 kg and having 8 Passenger seats or less.

All Owned, Contracted or Leased Light Vehicles shall comply with the following requirements:

2.1.1 General

- a) Be suitable for operation in local climatic conditions;
- b) No significant modification to be made to any Vehicle without endorsement from the Vehicle Manufacturer, or the custodian of this specification or relevant local regulations;
- c) Not be fitted with a bull-bar or other protruding fitments even if provided or fitted by the Vehicle Manufacturer, unless a documented risk study justifies otherwise;
- d) No Vehicle less than 1000 kg to be used on public roads;
- e) Where New Car Assessment Programme (NCAP) test figures are available no new Vehicle to be selected which has scored less than four stars overall and less than two stars for pedestrian safety.

2.1.2 Tyres

- a) Tyres, including spares if full size, to be of same type, profile and tread pattern, except when the Vehicle or tyre Manufacturer recommends a different type for certain axles;
- b) Tyres to be radial with a minimum tread depth of 1.6mm [1/16 inch], recommended 2.0mm, across 75% of the tyre width and tread-pattern visible across 100% of the tyre;
- c) Tyre type and pattern to be recommended by the Vehicle or tyre Manufacturer for use on the Vehicle in the area of operation;
- d) Re-treated and re-grooved tyres are not acceptable on Light Vehicles;
- e) Vehicle to be fitted with a spare wheel and changing equipment to safely change a wheel, or a suitable alternative;
- f) Temperature rating on the tyre [A, B or C] applicable for the operating climate.

2.1.3 Side impact protection

- a) Side impact protection shall be installed on light duty Vehicles. This is not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures in place.

2.1.4 Seat-belts

- a) To be fitted with a 3-point inertia reel type seatbelt for the Driver and all Passengers;
- b) It is strongly recommended to fit pretensioners if they are available from the Vehicle manufacturer.

2.1.5 Seats

- a) Driver's seat to be independently adjustable with as a minimum forward and rearward adjustment;
- b) Not be fitted with in/out-ward facing seats;
- c) Folding seats are only acceptable if they have locks/ catches to prevent them from folding during impact and are fitted with a 3-point inertia reel type seatbelt and a headrest;
- d) Seats to be fitted with headrests. Head restraints are not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place;
- e) Converted cargo areas fitted with seats are not acceptable.

2.1.6 In-cab

- a) To be fitted with a serviceable climate control system or air conditioning/heating system that is able to maintain an in-cab temperature range of 5°C to 30°C (41°F to 86°F) under all local climatic and driving conditions. The air conditioning unit shall use a non ozone depleting refrigerant;
- b) To be fitted with a working radio/audio player;
- c) Signs, stickers or labels to be fitted in such a manner that they do not obstruct the Driver's vision or impede the Driver's use of any controls;
- d) Ornamental fittings mounted or hung inside the cab that obscure the Driver's view shall not be fitted;
- e) The front windscreen to be laminated, and toughened safety glass in all other windows;
- f) Tinted films are not allowed on the main part of the windscreen;
- g) To be fitted with an adjustable steering column;
- h) Non-slip pedal pads to be fitted for brake, clutch and accelerator pedals;
- i) All instrumentation to be in the local unit of measurement e.g. speedometer, fuel gauge;
- j) All Vehicle door locking systems shall have an override in order that occupants can open the doors after the Vehicle has been locked externally;
- k) The steering wheel shall be in adherence to local traffic regulations. e.g. left hand drive steering wheel for roads where you drive on right hand side.

2.1.7 Luggage and cargo space

- a) Luggage space to be physically separated from the Occupants area. As a minimum by means of a mesh grid that is able to restrain the maximum payload during emergency braking and in a crash where the passenger cell is not breached.

2.1.8 Mirrors

- a) Adjustable left, right and central rear view mirrors to be fitted.

2.1.9 Lights

- a) All Vehicles to have four way hazard lights;
- b) All Vehicles to have a high level rear brake light, additional to the two conventional brake lights.

2.1.10 Anti lock braking and airbags

- a) Anti-Lock Braking Systems (ABS) for all Light Vehicles first registered after 1 July 2006;
- b) Airbags for both the Driver and front seat Passenger (i.e. dual airbags) for all Light Vehicles first registered after 1 July 2006;
- c) If side airbags are available these should be specified;
- d) Airbags and ABS are not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place.

2.1.11 Reversing alarms

- a) Strongly recommended that for Vehicles longer than 6 metres or with a restricted rear view (e.g. pick up trucks that are fully loaded) to be fitted with an audible reversing alarm.

2.1.12 Emergency equipment

The following emergency equipment should be installed and securely fixed, when appropriate, on Light Vehicles:

- a) A multipurpose fire extinguisher with a capacity of at least 0.9 kg. The fire extinguisher shall be securely mounted on a bracket and located so that it is easily accessible in an emergency without becoming a hazard in case of an accident;
- b) First-aid kit and flashlight/torch;
- c) Disabled Vehicle marker (e.g. warning triangle);
- d) Carry a high visibility jacket for the Driver to be used in case of emergency stops.

2.1.13 Dust and Ice and Snow Road specifics

- a) Two red high-intensity lights located as high, as far apart, and as far back as practicable, wired to the headlight switch, but also with an override switch, if permitted by local regulations.

2.1.14 Rollover protection

- a) Rollover protection where fitted to conform to the rollover protection.

2.1.15 Off Road specifics

- a) Light Vehicles used Off Road to have a four-wheel drive transmission.

2.2. Requirements for Heavy Goods Vehicles

Definition: **Heavy Goods Vehicle (HGV)**

Any motor Vehicle with a Kerb Weight of more than 4000 kg or Gross Vehicle Weight greater than 7500 kg, which is specifically designed to pull a Trailer or to carry cargo.

All Owned, Contracted or Leased Heavy Goods Vehicles shall comply with the following requirements:

2.2.1 General

- a) Be suitable for operation in local climatic conditions;
- b) No significant modification to be made to any Vehicle without endorsement from the Vehicle Manufacturer, the custodian of this specification or relevant local regulations;
- c) Not be fitted with a bull-bar or other protruding fitments even if provided or fitted by the Vehicle Manufacturer, unless a documented risk study justifies otherwise.

2.2.2 Tyres

- a) Tyres to be of the same type, profile, weight rating and tread pattern, on the same axle;
- b) Tyres to be radial, with a minimum tread depth of 1.6mm [1/16 inch], recommended 2.0mm, across 75% of the tyre width and tread-pattern visible across 100% of the tyre;
- c) Tyre brand and pattern to be recommended by the Vehicle or tyre Manufacturer for use on the Vehicle in the operating environment;
- d) Re-treaded tyres are not permitted on the steering axle. Re-treaded or re-grooved tyres are permitted on drive axles;
- e) Vehicle to be fitted with a spare wheel and changing equipment to safely change a wheel or a suitable alternative (note: due to risks involved with changing Heavy Goods Vehicle wheels local work instructions shall be developed on how to do this safely);
- f) Temperature rating on the tyre [A, B or C] applicable for the operating climate;
- g) Single piece rims (as available) should be installed on Heavy Goods Vehicles.

2.2.3 Under-run protection

- a) Rear and front under-run protection shall be fitted to all Heavy Goods Vehicles, except if the protection seriously affects the Vehicles operation;
- b) The rear under-run bumper shall be constructed to withstand a force equivalent to half the Gross Vehicle Weight or a maximum of 10 tonnes, whichever is lower, without deflecting more than 400 mm measured from the rearmost point of the Vehicle (not from the original vertical position of the bumper);
- c) Side under-run protection strongly recommended to be fitted, except if the protection seriously affects the Vehicles operation.

2.2.4 Seat-belts

- a) Fitted with a 3-point inertia reel type seatbelt for the Driver and all Passengers.

2.2.5 Seats

- a) Driver's seat to be independently adjustable with as a minimum forward and rearward adjustment;
- b) Not to be fitted with any in/outward facing seats;
- c) Folding seats are only acceptable if they have locks/catches to prevent them from folding during impact and are fitted with a 3-point inertia reel type seatbelt and a headrest;
- d) All seats to be fitted with headrests. Head restraints are not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place.

2.2.6 Brakes

- a) A dual circuit brake system with a dual airline for trucks that pull a Trailer.
One circuit shall operate at the secondary brake system in case a component of the dual system fails;
- b) All braking systems to be fail-safe;
- c) Anti-Lock Braking Systems (ABS) to be fitted for all Heavy Goods Vehicles first registered after 1 July 2006;
- d) ABS is not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place;

- e) When Heavy Goods Vehicles are being operated in mountainous/hilly terrain they shall be fitted with an endurance braking system (retarder) with sufficient retardation capacity for the area of operations;
- f) Wheel chocks (on passenger side) should be installed on Heavy Goods Vehicles.

2.2.7 In-cab

- a) Cab to be fitted by Manufacturer;
- b) Be fitted with a serviceable climate control system or air conditioning/heating system that is able to maintain an in-cab temperature range of 5°C to 30°C (41°F to 86°F) under all local climatic and driving conditions. The air conditioning unit shall use a non ozone-depleting refrigerant;
- c) Be fitted with a working radio/audio player;
- d) Signs, stickers or labels shall be fitted in such a manner that they do not obstruct the Driver's vision or impede the Driver's use of any controls;
- e) To not have ornamental fittings mounted or hung inside the cab, or outside the Vehicle, which can obscure the Driver's view;
- f) Front windscreen to be laminated, and toughened safety glass in all other windows;
- g) Tinted films are not allowed on the main part of the windscreen;
- h) To be fitted with a fully adjustable steering column;
- i) Non-slip pedal pads to be fitted for brake, clutch and accelerator pedals;
- j) All instrumentation to be in the local unit of measurement e.g. speedometer, fuel gauge;
- k) The steering wheel shall be in adherence to local traffic regulations e.g. left hand drive steering wheel for roads where you drive on right hand side.

2.2.8 Exterior

- a) Steps and grab handles for easy access for Driver and Passenger (wheel hub step unacceptable);

2.2.9 Mirrors

- a) Adjustable left, right and central rear view mirrors to be fitted. Convex to be fitted mirrors for blind spots.

2.2.10 Lights

- a) All Vehicles to have four way hazard lights;
- b) All vehicles to have two conventional brake lights.

2.2.11 Reversing alarms

- a) Reversing Alarms shall be fitted with an audible reversing alarm on the rear most point of the entire Vehicle combination. Where these alarms are not fitted a Banksman shall be required to direct the Driver when reversing the Vehicle.

2.2.12 Emergency equipment

The following emergency equipment should be installed and securely fixed, when appropriate, on Heavy Goods Vehicles:

- a) An in cab fire extinguisher with a capacity of 2 kg. The fire extinguisher to be securely mounted on a bracket and located so that it is easily accessible in an emergency;
- b) Be fitted with an external fire extinguisher of a type that is compatible with the load the Vehicle is carrying. The fire extinguisher shall be securely mounted on a bracket with reflectors and located so that it is easily accessible in an emergency;
- c) First aid kit and flashlight/torch;
- d) Two disabled Vehicle markers (e.g. warning triangle);
- e) Carry a hi-visibility jacket for the Driver for journeys in darkness or in High-Risk Environments.

2.2.13 Dust and Ice and Snow Road specifics

- a) Two red high-intensity lights located as high, as far apart, and as far back as practicable, wired to the headlight switch, but also with an override switch, if permitted by local regulations.

2.2.14 Prime mover additional specific Items

- a) For prime movers:
 - One separate connector/coupling for the ABS system;
 - Two 7 Pole connectors or One 15 Pole connector for the electrical system;
 - Two connectors for the airlines supply and service;

- One-fifth wheel for semi-trailer. For normal road operations the lateral movement to be zero, fifth wheel height to match the trailers being used. The skid plate of the Trailer to be horizontal.
- b) For Rigid trucks:
- One separate connector/coupling for the ABS system;
 - Two 7 pole connector or One 15 Pole connector for the electrical system;
 - Two connectors for the airlines supply and service;
 - One trailer coupling. Coupling height to match the Trailers being used. The drawbar of the Trailer to be horizontal.

For standardisation purposes it is strongly recommended to use fifth wheels, kingpins, air connectors and ABS connectors that are made according to ISO standards. For the correct selection of the coupling or kingpin type/size a D-value calculation has to be made.

2.2.15 Load Bed

- a) Comply with section on load beds in the trailers section (4.4.2) of this Specification;
- b) Have the maximum payload details (in kilos or pounds) of a cargo or load area painted or applied so that it is clearly visible to persons loading the Vehicle.
- c) The maximum payload details shall be applied on both sides of the Vehicle, except on prime-movers.

2.2.16 Spray suppression

- a) Spray suppression shall be fitted for climatic environments where water spray is a regular risk to other road users.

2.2.17 Hauling horsepower

- a) For normal hauling operations in flat terrain the minimum horsepower requirement is 6bhp / Ton of Gross Vehicle Weight (GVW) or Gross Combined Weight (GCW). For operations in mountainous terrain the minimum horsepower requirements is 8bhp / Ton of GVW or GCW. Exceptional heavy hauling operations [e.g. hauling rig components] are exempted from this requirement due to the use of trucks with special gear ratios.

2.3. Requirements for Buses

Definition: **Bus**

Any motor Vehicle with 9 or more Passenger seats.

Light Bus Any Bus having 25 or less Passenger seats.

Heavy Bus Any Bus carrying 26 or more Passenger seats.

All Owned, Contracted or Leased Light Buses and Heavy Buses shall comply with the following requirements:

2.3.1 General

- a) Be suitable for operation in local climate conditions;
- b) No significant modification to be made to any Vehicle without endorsement from the Vehicle Manufacturer, the custodian of this specification or relevant local regulations;
- c) Not be fitted with a bull-bar or other protruding fitments even if provided or fitted by the Vehicle Manufacturer, unless a documented risk study justifies otherwise.

2.3.2 Tyres

- a) Have tyres, of the same type, profile, weight rating and tread pattern, on the same axle;
- b) Tyres to be radial, with a minimum tread depth of 1.6mm [1/16 inch], recommended 2.0mm, across 75% of the tyre width and tread-pattern visible across 100% of the tyre;
- c) Tyre brand and pattern to be recommended by the Vehicle or tyre Manufacturer for use on the Vehicle in the operating environment;
- d) Re-treaded tyres are not permitted on Buses;
- e) Vehicle to be fitted with a spare wheel and changing equipment to safely change a wheel or a suitable alternative (note: due to risks involved with changing Bus wheels local work instructions shall be developed on how to do this safely).

2.3.3 Seat-belts

- a) Be fitted with a 3-point inertia reel type seatbelt for the Driver, and the front seat Passengers. All other Passenger seats shall be fitted as a minimum with an inertia 2-point lap seatbelt. 3-Point inertia reel seat belts are recommended for all seats;

- b) Passenger seatbelts to be approved by the Vehicle or Bus body Manufacturer for the type of Vehicle or seat configuration being used;
- c) It is strongly recommended to fit pretensioners if available;
- d) Stickers shall be fitted to the rear of Passenger seats reminding Passengers to wear the seatbelt allocated to their seat.

2.3.4 Seats

- a) Driver's seat to be independently adjustable with as a minimum forward and rearward adjustment;
- b) Mechanical fixing seats to be approved by the Bus body Manufacturer;
- c) Not to be fitted with any in/outward facing seats;
- d) Folding seats are only acceptable if they have locks/catches to prevent them from folding during impact and are fitted with a 3-point inertia reel type seatbelt and a headrest;
- e) Seats to be fitted with headrests. Head restraints are not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place;
- f) Seats to be of fabric material, and if fitted with seat covers these shall be of fireproof and non-toxic fabric;
- g) Seatbacks and any wall panel or fixture in front of any Passenger seat to be smooth and padded with no sharp edges.

2.3.5 Interior of Bus body

- a) Be fitted with a serviceable climate control system or air conditioning/heating system that is able to maintain an in-cab temperature range of 5°C to 30°C (41°F to 86°F) under all local climatic and driving conditions. The air conditioning unit shall use a non ozone-depleting refrigerant;
- b) Be fitted with a working radio/audio player;
- c) Signs, stickers or labels shall be fitted in such a manner that they do not obstruct the Driver's vision or impede the Driver's use of any controls;
- d) To not have ornamental fittings mounted or hung inside the cab, or outside the Vehicle, which can obscure the Driver's view;
- e) Front windscreen to be laminated, and toughened safety glass in all other windows;
- f) To be fitted with an adjustable steering column;
- g) Non-slip pedal pads to be fitted for brake, clutch and accelerator pedals;
- h) All instrumentation to be in the local unit of measurement e.g. speedometer, fuel gauge;
- i) The steering wheel shall be in adherence to local traffic regulations e.g. left hand drive steering wheel for roads where you drive on right hand side.

2.3.6 Luggage and cargo space

- a) All luggage shall be stored and in a separate self contained compartment from the Passengers;
- b) A warning sign shall be placed at the front door of the Bus instructing Passengers to store all luggage and tools in the self-contained luggage compartment.

2.3.7 Mirrors

- a) Adjustable left and right view mirrors to be fitted;
- b) Have a 'look down lens' in the rear window or a wide-angle mirror mounted at the rear of the Vehicle.

2.3.8 Lights

- a) All Vehicles to have four way hazard lights;
- b) All Vehicles to have two conventional brake lights.

2.3.9 Anti lock braking and airbags

- a) Anti-Lock Braking Systems (ABS) for all Buses registered after 1 July 2006;
- b) Airbags for both the Driver and front seat Passenger (i.e. dual airbags) for all Light Buses registered after 1 July 2006;
- c) ABS and airbags are not applicable to Vehicles that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures are in place.

2.3.10 Reversing alarms

- a) Reversing alarms shall be fitted with a rear-mounted audible reversing alarm if the Bus is longer than 6 metres and audible from at least 8 metres. Where these alarms are not fitted a banksman shall be required to direct the Driver when reversing the Vehicle.

2.3.11 Emergency equipment

The following emergency equipment should be installed and securely fixed, when appropriate, on Buses:

- a) Hammers for smashing windows in case of emergencies to be fitted above windows or on window pillars when not equipped with emergency exit windows;
- b) An in cab fire extinguisher of multipurpose dry powder with a capacity of 2 kg. The fire extinguisher to be securely mounted on a bracket and located so that it is easily accessible in an emergency;
- c) First aid kit and flashlight/torch;
- d) Two collapsible Vehicle markers (e.g. warning triangles);
- e) Carry a hi-visibility jacket for the Driver for journeys in darkness or in High-Risk Environments.

2.3.12 Dust and Ice and Snow Road specifics

- a) Two red high-intensity lights located as high, as far apart, and as far back as practicable, wired to the headlight switch, but also with an override switch.

2.3.13 Rollover protection

- a) To ensure sufficient survival space for Passengers in case of a roll-over, Heavy Buses strength of Bus body shall comply with:
 - EC (European Community) Regulation 66, or
 - ADR 59 (Australian Design Rules), or
 - 49 CFR Part 571.216 (United States Law).

2.3.14 Passenger door and emergency exit

- a) Passenger access door shall be fitted to kerb side of the operating environment;
- b) Shall have a clearly visible sign marking at the designated emergency exit door(s) from the Bus, even in the case of one Passenger door being fitted.

2.3.15 Mountains/hilly terrain

- a) When Heavy Buses are being operated in mountainous/hilly terrain the Bus shall be fitted with an endurance braking system (retarder) with sufficient retardation capacity for the area of operations.

2.4. Requirements for Trailers

Definition: ***Trailer***

Any Vehicle designed to be towed by a motor Vehicle (including semi-Trailers and drawbar Trailers).

2.4.1 All Trailers

All Owned, Contracted or Leased semi-Trailers and drawbar Trailers shall comply with the following requirements:

2.4.1.1 General/ Legal

- a) Be suitable for operation in local climate conditions;
- b) No major modification to be made to any Trailer without endorsement from the Trailer manufacturer.

2.4.1.2 Tyres

- a) Tyres to be radial, with a minimum tread depth of 1.6mm [1/16 inch], recommended 2,0mm, across 75% of the tyre width and tread-pattern visible across 100% of the tyre;
- b) Have at least one spare wheel, securely mounted (the spare wheels on the prime mover are acceptable if the Trailer wheels are the same size).

2.4.1.3 Under-run protection

- a) If not specified by globally accepted manufacturing or safety regulations, the rear under-run bumper shall be constructed to withstand a force equivalent to half the Gross Vehicle Weight or a maximum of 10 tonnes, whichever is lower, without deflecting more than 400 mm measured from the rearmost point of the Vehicle (not from the original vertical position of the bumper);
- b) Side under-run protection strongly recommended to be fitted.

2.4.1.4 Brakes

- a) The brake system shall be fail-safe;
- b) A Manual securing device to lock the Trailer brakes when Trailer is uncoupled.

2.4.1.5 Luggage and cargo space

- a) Semi-Trailer and Trailer platforms for general cargo use shall be approximately level when coupled to the prime mover or the towing Vehicle;
- b) The maximum payload details shall be displayed on both sides of the Trailer;
- c) Semi-Trailers and Trailers with a load bed for general cargo shall comply with the requirements in the load bed section (4.4.2).

2.4.1.6 Lights

- a) Lighting which includes side lights, fog lights, reversing lights, rear lights, brake lights and indicator/hazard warning lights.

2.4.1.7 Anti lock braking and airbags

- a) Anti-lock Braking systems (ABS) to be fitted for Trailers first registered after 1 July 2006. ABS is not applicable to Trailers that only operate on specific sites with controlled speed zones less than 35 km/h and local road transport safety procedures in place.

2.4.1.8 Emergency equipment

- a) Have any required fire extinguishers, toolkits, spare wheels and other accessories securely mounted.

2.4.1.9 Dust and Ice and Snow Road specifics

- a) Be fitted with two red high-intensity lights located as high, back and as far apart as practicable, wired to the headlight switch of the prime mover or towing Vehicle, but also with an override switch.

2.4.1.10 Couplings and connections

Semi-Trailers shall be fitted with:

- One separate connector/coupling for the ABS system;
- Two 7 Pole connector or one 15 Pole connector for the electrical system;
- Two connectors for the airlines, supply and service;
- Kingpin of the Trailer to match with fifth wheel of the tractor unit.

Kingpin either to be 2" or 3 1/2" Fifth wheel height to match the Trailers being used. The skid plate of the Trailer to be horizontal when connected.

For standardisation purposes it is strongly recommended to use fifth wheels, kingpins, couplings, drawbar eyes, air connectors and ABS connectors, which are made according to ISO standards.

For the correct selection of the drawbar eye or kingpin type/size a D-value calculation has to be made.

2.4.1.11 Landing Gear

- a) Trailer landing gear appropriate to the Gross Vehicle Weight, and which does not interfere with the swing of the prime mover when stowed. Dual telescopic landing legs with flotation plates suitable for use on soft ground and adequate strength to support a fully loaded Trailer.

2.4.2 Requirements for Load Bed for General Cargo

All Owned, Contracted or Leased Light Vehicles, Heavy Goods Vehicles and Trailers with a load bed for general cargo use shall be equipped with:

2.4.2.1 General/legal

- a) Smooth wooden cargo deck with no holes or protruding parts.

2.4.2.2 Headboard

- a) A solid headboard or equivalent fitted to the Vehicle or Trailer to stop loads, in combination with other load restraining devices, from moving forward when decelerating at 0.8G;
- b) Trailers designed specifically to haul container only i.e. not flatbed Trailers, but Trailers with twist-locks do not require a headboard.

2.4.2.3 Securing devices

- a) Load securing anchorage points designed so that all forces imposed by the load are transmitted to the main chassis;

- b) Trailers used for the carriage of shipping containers recommended to be fitted with suitable twist locks for both 20 ft. and 40 ft.

2.5. Requirements for Tankers

Definition: **Tanker**

Tankers are a combination of a tank and a Vehicle. They include purpose built road Tankers (comprising tanks bolted to a Vehicle or Trailer chassis) and skidded tanks on flatbed or oilfield Trailers.

The following requirements do not apply to:

- Tankers built to ISO Shipping Container Standards;
- Skid parts of drilling rigs such as Mud Tanks.

All Owned, Contracted or Leased Tankers in addition to 2.2 'Requirements for Heavy Goods Vehicles' and 2.4 'Requirements for Trailers' shall comply with the following requirements:

2.5.1 General /legal

- a) All Tanker Vehicles equipped with a Power Take-Off (PTO) Operated Pump shall also be equipped with an air valve control, which interlocks the PTO engagement with the braking system, so that the brakes are applied and the Vehicle cannot be moved when pumping;
- b) Petrol driven auxiliary discharge pumps are not permitted;
- c) All Tanker Vehicles are recommended to be designed in accordance with the relevant regulations. In the absence of such regulations one of the following may be used with regard to centre of gravity of the Vehicle:
- Agreement of Dangerous Goods Rules (ADR);
 - American Society of Mechanical Engineers (ASME) standard;
 - American Society for Testing and Materials (ASTM International) manufacturing standard.
 - All fuel Tankers in accordance with Shell Distribution Document "Engineering & Construction Guideline For Road Tractor & Trailer";
- d) The Vehicle shall have a certificate from the Manufacturer showing that the Vehicle was designed and manufactured to meet these requirements;
- e) This certificate shall be available for inspection at the Vehicle's base of operations.

2.5.2 Internal design of tanks

- a) The maximum volume contained between two partitions or surge plates shall be 7500 litres;
- b) Surge plates and partitions shall be dished, with a depth of dish of not less than 10cm, or shall be corrugated, profiled or otherwise reinforced to give equivalent strength. The area of the surge plate shall be at least 70% of the cross-sectional area of the tank.

2.5.3 Manholes

- a) All Tankers (except those having a fully opening rear end) shall be fitted with a minimum of two manholes;
- b) As a minimum manholes shall be 407mm (16 inches) by 356mm (14 inches) if they are rectangular, or 407mm (16 inches) in diameter if circular;
- c) Manholes (except in the case of potable water Tankers) shall be designed to resist opening in the event of a rollover;
- d) Manholes (except in the case of potable water Tankers) shall be protected by a valance. The valance shall be higher than the manhole and cover, and any other tank top fittings;
- e) It shall be designed to withstand 2 times the weight of the fully loaded Vehicle in a vertical direction, and 1.5 times the weight of the fully loaded Vehicle in a horizontal direction. Drainage of the valance shall be provided.

2.5.4 Venting

- a) All Tankers shall be protected from overpressure by being fitted with at least one pressure relief valve or vent, which may be fitted within a manhole;
- b) For all Tankers (except water Tankers) all vents shall be fitted with suitable flame / spark arrester.

2.5.5 Requirements for Pressurised Tankers

- a) Pressurised Tankers include:
- Vacuum Tankers;
 - Bulk cement Tankers;
 - LPG/LNG Tankers.

All pressurised Tankers are required to be pressure tested annually by a qualified third party Inspector and a certificate of compliance prominently displayed inside the Vehicle cab indicating the next inspection due date.

Attachment 8 LIFTING AND HOISTING - HSE REQUIREMENTS (EP2005-0264)

1. Introduction

Incidents related to lifting and hoisting operations have the potential for significant impact on people, assets, environment and reputation and in recent years have resulted in loss of life and asset damage in EP operations.

2. Scope and Application

Lifting and Hoisting shall comply with Shell Exploration and Production EP2005—0264 : Managing Logistics – Lifting and Hoisting HSE except as otherwise amended herein.

This Standard specifies the requirements for lifting and hoisting operations and Lifting Equipment applying to EP Companies and, by express contractual obligation, to their contractors. For the purpose of this Standard, contractors are taken as the provider of services or goods to EP Companies as outlined in the EP Standard 'Contractor HSE Management'

This Standard applies to all aspects of lifting and hoisting operations carried out using pedestal cranes, mobile cranes, overhead and gantry cranes, A-frames, jib cranes, derricks, hoists, winches, special hoist-supported personnel lifting devices, hooks, slings and rigging, lifting points, mobile aerial platforms, powered industrial trucks (forklifts), jacks, offshore containers, cargo baskets, skids, and pallets; and all lifting and hoisting operations not specifically excluded.

This Standard does not cover personnel and goods elevators in buildings, diving personnel operations, well operations involving the crown block, travelling block, and top drive systems, mining and earth moving, lumber (timber) logging, helicopter lifting, tensioners, marine towing, and manual handling. The foregoing are addressed by separate standards.

This Standard shall be used together with local government regulations, Shell Group Design and Engineering Practices (DEPs) and other recognised codes or standards as applicable [App. 2].

Lifting and Hoisting carried out on STOS facilities, shall be carried out under the STOS Permit to Work system and associated Checklists

22	Forklifts, Cherry Pickers, Diggers
29	Lifting Operations inshore
30	Lifting Operations involving cranes and gantries offshore
57	General Rigging

Rigging shall meet the requirements of STOS Work Instruction WI-EP72.03-625 Lifting Accessory Inspection and Maintenance. Inspection intervals overrule those in Appendix 3

Italicised terms within this Standard are defined in [App. 1] and EP Specification 'EP2005 HSE Glossary of Definitions'

3. EP Standard

3.1 Roles and Responsibilities and Competence Assurance

The roles and responsibilities of all personnel involved in lifting and hoisting shall be defined together with their respective competency. These definitions shall address:

- Role and task description;
- Training and experience requirements;
- Criteria for maintaining competency.

Roles, HSE critical tasks and generic competence requirements for lifting operations are listed in [App. 4]. These shall be used, taking local regulations into account, to develop local task descriptions and competency requirements for lifting and hoisting. The EP Standard 'Competency Assurance of HSE Critical Positions' shall be applied to manage competency in these roles.

Local task descriptions shall specify who keeps and maintains records of qualified personnel. Records shall be available for audit.

Additional support and/or supervision shall be provided for temporary workers, new personnel and short service employees, as they are likely to have less knowledge, experience and awareness of the requirements of the job and the associated hazards.

Site Manager

The Site Manager shall identify a PIC for each lifting operation. A person of suitable competence and qualification appointed by the company responsible for a site (e.g. a vessel, a platform, a land location) to oversee and approve all operations on this single location, on behalf of all personnel working on it. Examples include the Master of the Vessel, or the Offshore Installation Manager (OIM) of a platform.

Person-in-Charge of the Lift (PIC)

The PIC shall make himself known to all persons directly involved in the lift and to those involved in concurrent operations, which could interact with it. The PIC shall coordinate and control all aspects of the lifting operation, including ensuring that every person involved is competent to perform their task and is aware of the task, the procedures to be followed, and their responsibilities.

3.2 Planning and Execution of Lifting Operations

3.2.1 Planning

Risk Assessment

The HEMP process defined in EP Standard 'Hazards and Effects Management Process' shall be applied to every lifting operation, which may be an individual Routine Lift, a group of repetitive Routine Lifts or a Non-Routine Lift, and shall address:

- Planning the lift;
- Identifying the hazards and restricted areas;
- Selecting competent personnel;
- Specifying the minimum number of people to conduct the lifting operation
- Selecting Lifting Equipment;
- Communicating lift requirements and hazards;
- Procedures for changing the Lift Plan;
- Emergency, recovery and contingency plans.

Work Environment Conditions

Environment conditions specific to the work location shall be identified and accounted for in the planning and execution of all lifting operations. Whenever there is a reasonable chance of changes in environmental conditions, contingency plans and procedures shall be developed as part of the work planning.

Parameters to be addressed may include sea state, weather, visibility, noise, communications, terrain stability or slope, surrounding operations and installations, and site access and egress.

Simultaneous nearby operations and their work environment conditions that could impact or be impacted by the lift shall be identified and addressed in the risk assessment. Controls shall be established, including criteria for suspending operations, and communicated to all relevant personnel.

Categorisation of Lifting Operations

Lifts should be categorised and controlled according to complexity and risk.

Lift Plan

For all lifts a Job Safety Analysis (JSA) and a Lift Plan (or the approved local equivalents) shall be prepared and documented.

Lift Plans shall specify conditions under which work shall not be continued, including unplanned loss of communications, and the associated contingency plans for ensuring a safe situation is created if the lift is stopped.

For *Routine Lifts*, the JSA and Lift Plan may be generic. Generic JSAs and Lift Plans shall specify each type and location(s) of lift they cover.

For *Non-Routine Lifts*, dedicated (i.e. not generic) Lift Plans and JSAs are required.

3.2.2 Execution

A *Toolbox Talk* shall be held to ensure that all personnel involved in the lift fully understand the JSA and Lift Plan. Prior to all lifts (Routine Lifts and Non-Routine Lifts) the PIC shall verify that the answers to the following '10 questions for a safe lift' are all addressed.

10 Questions for a Safe Lift

1. Is everyone aware of and do they fully understand the lifting and hoisting procedures applicable to the lift?
2. Has everyone attended the toolbox talk?
3. Has a pre-use inspection of the *Lifting Equipment* been carried out and are the *Lifting Accessories* tagged or marked with:
 - *Safe Working Load*
 - *A unique identification number*
 - *A valid certification date*
4. Are all safety devices working?
5. Does everyone know the Person-in-Charge of the lift?
6. Is everyone competent and aware of his or her tasks?
7. Is there a current *Lift Plan* and *JSA* and does everybody understand the job and precautions?
8. Does everyone know the environmental limits (e.g. maximum permissible wind speed) for the lift?
9. Is the lift area controlled and is everyone clear if the load falls or swings?
10. Are signalling methods and communication agreed and clear to you?

Controlling Access to the Lift Area Controlling Area

Access to the work area(s) and to the Lifting Equipment shall be appropriately controlled, which may include the use of security measures and barriers.

No personnel shall be allowed under a load without an independent second barrier in place. A full risk assessment must be carried out to ensure the barrier is sufficient, access is controlled, and failure of the primary restraint, e.g. the crane or rigging, will not result in the injury of personnel.

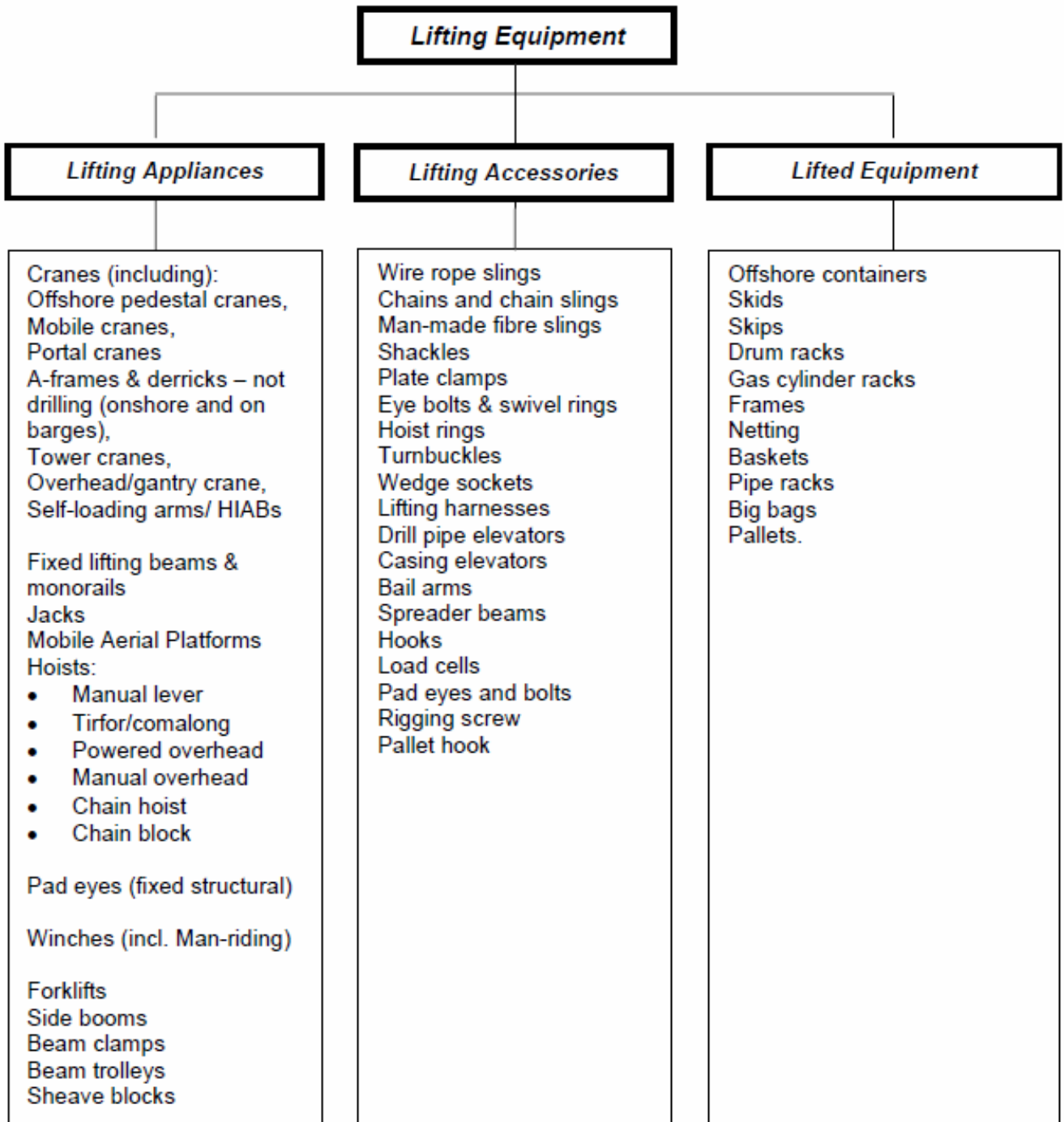
3.3 Personnel Lifting

Personnel lifting operations are not the preferred option and shall only be used if shown to be ALARP. Personnel lifting operations shall be:

- Categorised as Non-Routine Lifts;
- Authorised in writing by the Site Manager;
- In compliance with EP Specification 'Personnel Lifting'

3.4 Lifting Equipment

Lifting Equipment comprises Lifting Appliances (equipment performing the lifting), Lifting Accessories (devices which connect the load to the Lifting Appliance) and Lifted Equipment. The diagram below includes the main categories but is not comprehensive.



The following measures, discussed in subsequent sections, are used to ensure that Lifting Equipment is of adequate strength and suitable for safe operation:

- Design and Certification
- Maintenance
- Testing
- Inspection
- Registration
- Storage.

3.5 Design and Certification of Lifting Equipment

To ensure that equipment is fit for purpose, local Controlling Documents shall address design, certification, maintenance, and inspection criteria in accordance with a recognised standard and/or manufacturer's recommendations.

The manufacturer or an approved certification body shall issue a certificate or a letter of conformance to appropriate standards. An overview of recognised design standards for Lifting Equipment is provided in [App. 2].

Lifting Appliances

The manufacturer shall supply all Lifting Appliances with documentation that defines the permissible operating conditions, design criteria, documentation of testing, maintenance requirements, and examination and inspection requirements.

Where local legislation permits, Shell DEPs shall be used as the default standard for pedestal cranes.

Each Lifting Appliance shall be marked to show:

- Safe Working Load (SWL);
- Unique identification number;
- Date of last certification and/or date of next certification.

Lifting Accessories

All Lifting Accessories shall comply with applicable international standards and industry-accepted codes of practice [App. 2] and be marked in the same manner as Lifting Appliances, see above.

Engineered lifting devices (e.g. spreader bars, abandonment/recovery hooks, Remote Operated Vehicle rigging) shall be designed, manufactured, and tested in compliance with the intent of the relevant industry standards [App. 2].

Lifted Equipment

All Lifted Equipment shall be designed, manufactured, inspected, tested, and certified in accordance with applicable international standards and industry-accepted codes of practice [App. 2].

ISO-type shipping containers are not designed for and hence not acceptable for offshore dynamic lifts.

All engineered lifting points shall be certified.

Any Lifted Equipment units not certified to an accepted code shall be structurally verified by a qualified engineer and load tested.

3.6 Maintenance of Lifting Equipment

The maintenance strategy shall be based on manufacturer's recommendations, operating experience and integration of preventative and predictive maintenance techniques. Maintenance activities shall include a review of spare part requirements.

3.7 Testing of Lifting Equipment

3.7.1 Proof Load Testing

For all new Lifting Equipment proof load testing shall be carried out prior to first use unless a test certificate or letter of conformity is supplied with the equipment. Proof load testing shall comply with the requirements in [App. 3]. The consequences of failure during testing shall be assessed and controlled.

Where existing Lifting Equipment is significantly altered or a major repair to components in the load path is carried out, a proof load test shall be conducted. Deviation from this recommendation shall be approved as specified in local task descriptions and documented in the equipment records. Proprietary test rigs should be used for proof testing of Lifting Accessories (e.g. cranes should not be used for this purpose).

3.7.2 Routine Function Testing

Testing shall include periodic function testing to verify operability and shall include safety systems and equipment (e.g. alarms and cut-outs).

3.8 Inspection of Lifting Equipment

Lifting accessories shall comply with STOS Work Instruction WI-EP72.03-625 Lifting Accessory Inspection and Maintenance. Certification period is 6 monthly which overrides the generic EP requirement in Appendix 3.

Inspections shall be carried out by a qualified inspector and shall comply with local Controlling Documents identifying the inspection frequency and acceptance/rejection criteria.

3.8.1 Periodic Inspections

A qualified inspector shall inspect all Lifting Equipment periodically.

Inspection intervals should not exceed those listed in [App. 3] and in any case shall not exceed 12 months. Inspections shall also be conducted if the integrity of the equipment may have been affected due to:

- Involvement in an incident;
- Exposure to overloads;
- Modification or repair;
- Change in condition of use.
-

Records of all inspections shall be maintained and shall be available for inspection.

3.8.2 Pre-Use Inspection

Prior to each use all items of Lifting Equipment shall be visually inspected by the PIC or a competent person as approved by the PIC to ensure, so far as is practicable, it is in a good state of repair and safe to carry out the lifting activity. In addition, pedestal cranes shall be function tested prior to use.

3.9 Register of Lifting Equipment

A register recording the following data shall be maintained for all Lifting Equipment:

- Manufacturer and description;
- Identification number;
- SWL;
- Date when the equipment was first taken in use;
- Particulars of defects and steps taken to remedy them;
- Dates and numbers of certificates of tests, inspections, and examinations, and name of person who performed these;
- Due dates for previous and next periodic inspection or periodicity of inspections;
- Maintenance Log.
-

This may be done either in a dedicated register and/or as apart of a maintenance management system (e.g. SAP).

3.10 Storage of Lifting Equipment

Loose Lifting Equipment shall be stored in a dedicated area (where practical, covered, dry or otherwise protected from the environment). Equipment shall be stored in such a manner as to avoid mechanical damage, corrosion, chemical exposure, etc.

Appendix 1: Glossary of Terms

Blind Lift	A lift where at any point in time during the lifting operation the crane operator cannot directly see the load.
Job Safety Analysis (JSA/JHA)	Also known as a Job Hazard Analysis (JHA) is a process for discussing and documenting each step of a job, identifying the existing or potential HSE hazards and then determining the best way to perform the job to reduce or eliminate the hazards. The JSA/JHA will typically include: <ul style="list-style-type: none"> • Selecting the job to be analysed; • Breaking the job down into a sequence of steps; • Identifying potential hazards; • Determining preventive measures to overcome these hazards; • Identifying the resources required, i.e. manpower and equipment, to execute the task safely.
Lift Category	A categorisation of lifting operations (i.e. Routine Lifts and Non-Routine Lifts) reflecting the risk of the lifting operation and the required level of control.
Lift Plan	The Lift Plan details of how the lifting operations should be undertaken, the Lifting Equipment and Lifting Accessories to be used, how the equipment and Lifting Accessories shall be rigged up and the control measures in place to manage the risks.
Lifted Equipment	Any device which is used to suspend the load, including containers, tanks, skips, skids, drum rackets, pipe racks, frames, gas cylinder racks, pallets, flexible industrial bulk containers ('big bags'), tree cages, cargo nets, and cargo baskets.
Lifting Accessories	Any device which is used or designed to be used directly or indirectly to connect a load to a Lifting Appliance and does not form part of the load e.g. slings, hooks and fittings, swivels, shackles, eye-bolts, rigging screws, wedge sockets, plate clamps, and spreader beams.
Lifting Appliances	Any mechanical device capable of raising or lowering a load, e.g. cranes, forklift trucks, powered hoists, manual hoists, lever hoists, beam trolleys, beam clamps, sheave blocks, winches, runway beams, mono-rail hoist, etc.
Lifting Equipment	Lifting Equipment comprises Lifting Appliances (equipment performing the lifting), Lifting Accessories (devices which connect the load to the lifting appliance), and Lifted Equipment.
Loose Lifting Equipment	Lifting Equipment that is portable enough so that it can easily be moved or carried by a person(s) to/from a store / location to a worksite to conduct a lifting operation. This may include Lifting Appliances (e.g. manual lever hoists, chain falls, beam clamps etc) and Lifting Accessories (e.g. slings, shackles etc.)
Management of Change	A process to ensure that appropriate review, approval, implementation, and tracking is in place to manage changes to the planned activities.
Non-Routine Lifts	All lifts not classified as Routine Lifts.
Pre-use Inspection	A visual check and, if necessary, a function check of the Lifting Equipment by a competent person before each use. In determining the suitability and scope of the inspection, reference should be made to information such as manufacturer's instructions and relevant industry standards.
Personnel Platform/ Carriers	A Personnel Platform/Carrier is designed and intended to give access to a work place at height for personnel and their tools and equipment to carry out minor work or inspections at a limited time. The platform is not designed for the actual transfer of personnel or to be used as a hoisting or lifting tool.
Routine Lifts	These are lifts involving loads of known or evaluated weight, shape and centre of gravity. The Routine Lift will be performed in normal environmental conditions (e.g. not in adverse weather) using standard rigging arrangements. Examples of Routine Lifts are loading/off-loading supply vessels and vehicles, moving grocery boxes, lifting re-bar, and delivering concrete by skip.
Safe Working Load (SWL)	The maximum load (as determined by a competent person) which an item of Lifting Equipment may raise, lower or suspend under particular service conditions, e.g. the SWL can be lower than, but can never exceed, the WLL. Normally SWL = WLL unless the Lifting Equipment has been de-rated.
Toolbox Talk	Toolbox Talk, also known as 'Toolbox Meeting' and 'Tailgate Meeting', is required to be carried out for all work with significant safety exposure. The Toolbox Talk must be done at the work site. It is the final check in the hazard assessment process and the start of the implementation of the work. The Toolbox Talk shall cover the work plan, the hazards, the controls, roles & responsibilities, and any recovery measures to be taken if the controls are not completely effective.
Working Load Limit (WLL)	The maximum load, determined by the manufacturer, which an item of Lifting Equipment is designed to raise, lower or suspend. Some standards and documents refer to WLL as the 'maximum SWL'.

Appendix 2: Applicable Codes

American National Standards Institute	ANSI
American Petroleum Institute	API
American Society of Mechanical ASME Engineers	ASME
Australian Technical Standards	ATS
British Standards Institute	BSI
Canadian Technical Standards	CTS
Code of Federal Regulations	CFR
Det Norske Veritas	DNV
The Provision and Use of Working Equipment Regulations, UK	PUWER
Lifting Operations and Lifting Equipment Regulations	LOLER
European National Standard	En
International Standards Organisation	ISO
Lloyds Register	
Occupational Safety and Health Administration	OSHA
Gosudarstvennye Standarty State Standard (Russian Technical Standards)	GOST

Appendix 4: Level 1 HSE Critical Tasks and Competencies in Lifting Operations

Role	Responsibilities/Tasks	Qualification/Competency/Skills
All Roles		<p>A designated individual that conforms to a minimum physical condition, level of competency, and has a documented trail issued by an accepted and recognised authority, satisfying legal and EP Company requirements and demonstrating the aforementioned and is deemed qualified to perform safe lifting/rigging operations.</p> <p>Qualified personnel must have successfully attended a specific training course that meets the requirement of national standards and must be trained on the specific Lifting Equipment type.</p> <p>Where the national standard qualification and competence/skill requirements are inadequate with reference to the accepted codes defined in [App. 2] one of the accepted codes shall be used to develop the EP Company lifting and hoisting competency requirements.</p>
Crane Operator Overhead Cranes	<ul style="list-style-type: none"> • To be responsible for the crane operations under his/her control; • To perform crane inspections with the exception of the initial, quarterly and annual inspections; • To duly complete all required crane operation logs, Pre-Use Inspection procedures and checks. 	Personnel shall be re-certified at intervals not greater than every five (5) years.
Crane Operator Mobile Cranes		Personnel shall be re-certified at intervals not greater than every five (5) years.
Crane Operator Offshore Pedestal Cranes		Personnel shall be re-certified at intervals not greater than every four (4) years.
Powered Industrial Truck (forklifts) Operator	<ul style="list-style-type: none"> • Perform a pre-operational check to demonstrate operational readiness of the truck; • Ensure the equipment is within inspection and testing intervals by examination of the periodic re-certification tags and/or documentation; • Adhere to all tags on the controls; • Drive at speeds appropriate for the existing conditions (space, load, lighting, surface conditions, etc.) and at or below posted limits; • Ensure other personnel are not in the swing radius prior to performing turning manoeuvres. 	<p>A designated individual that conforms to a minimum physical condition, level of competency, and has a documented trail issued by an accepted and recognised authority, satisfying legal requirements and demonstrating the aforementioned and is deemed qualified to perform safe forklift operations.</p> <p>Personnel shall be re-certified at intervals not greater than five (5) years.</p> <p>The training syllabus for Powered Industrial Truck Operators must comprise a major element of practical instruction / examination in addition to the written examination.</p>

Banksman (Flagman, Signaller)	<p>A designated individual who:</p> <ul style="list-style-type: none"> • Coordinates the lifting movements and maintains radio- and/or visual communication with crane operator and persons close to the load; • Participates in JSA/risk assessment for the lift; • Should not get involved as Rigger when also performing the role of a Banksman. 	<p>Has successfully completed training programme(s) that are appropriate to the lifts they are involved with that incorporates familiarisation with rigging hardware, slings, communication including hand signals and radio) and safety issues associated with rigging and lifting loads, and planning of lifting operations.</p>
Slinger/Rigger cranes)	<p>A designated individual who:</p> <ul style="list-style-type: none"> • Shall inspect the rigging; • May contribute to selecting rigging to suit the load; • Connects/disconnects the load and participates in JSA/risk assessment for the lift. 	
Rigger (portable Lifting Equipment)	<p>A designated individual who for portable Lifting Equipment:</p> <ul style="list-style-type: none"> • Inspects the rigging, selects rigging to suit the load, installs the equipment; • Connects/disconnects the load and participates in JSA/risk assessment for the lift. 	
Mobile Aerial Platform Operator	<p>A designated individual who drives and operates aerial platforms (e.g. cherry pickers, scissor platforms):</p> <ul style="list-style-type: none"> • To duly complete all required operation logs, pre-use inspection procedures and checks; • Performs a pre-operational check to demonstrate operational readiness; • Assesses the stability of the ground and environmental conditions are within operating procedures; and tests the communication system; • Verifies that the lifted personnel wear the required PPE for the lift. 	<p>Has successfully completed training programme(s) that</p> <ul style="list-style-type: none"> • Are appropriate to the lifts involved • Incorporate(s) familiarisation with equipment and: <ul style="list-style-type: none"> ○ Mobile aerial platform safety; ○ Working at heights; ○ Fall protection; ○ Pre-operational checks; ○ Operating requirements.
Person-in-Charge PIC) of the Lift	<p>Appointed by the Site Manager as the designated individual who is responsible:</p> <ul style="list-style-type: none"> • For coordination and control of the lifting operation, including ensuring that involved people are competent for performing their task, aware of the task, aware of the procedures to be followed, and aware of their responsibilities; • Ensuring that the Lifting Equipment is inspected and appropriate for use; • That the JSA is followed and the Toolbox Talk is held prior to the lift. 	<p>Skilled in the application of the legal and EP Company requirements relevant to the planning and execution of lifts they are involved with.</p>
Lifting Equipment Maintainer	<p>A designated individual who is responsible for performing maintenance of Lifting Equipment to ensure its technical integrity in accordance with legal and EP Company maintenance requirements.</p>	<p>Maintenance of Lifting Equipment shall be carried out by suitable qualified and competent personnel with adequate knowledge in the following areas:</p> <ul style="list-style-type: none"> • Awareness of the relevant standards and regulations and site specific requirements and procedures; • Maintenance requirements on all types of Lifting Equipment to be maintained; • Inspection frequency requirements; • Detailed inspection requirements for all Lifting Equipment; • Discard criteria and disposal processes for failed equipment.