# Texas Petroleum Group
# HSSE Standards for Personal Safety and Contractor Management


**Version 1.3**

**Issue Date: December 2022**

**Summary of Changes since last revision**

| Version | Short Description of the Change |
|---|---|
| 1.0 | New document – TPG HSSE Manager, Brooke Nelson |
| 1.1 | Inclusion on technical assurance in MOC process |
| 1.2 | Environmental Manual added April, 2023 |
| 1.3 | Assist and Assure under Compliance & TPG C&P, Work Safe Campaign, Safety Standards August 2023 |
| 1.4 | Occupational Exposure limits |
| | |

## Table of Contents

## 1.0 Purpose & Scope

The purpose of this document is to set forth Texas Petroleum Group's Personal Safety HSSE Standards and Requirements as defined by the Shell HSSE Control Framework. This document supplements and is to be used in conjunction with all other applicable requirements and applicable laws.
Safety is the number one priority for all work performed. No one shall compromise safety in any way. If there is any doubt as to whether an activity is safe, stop, assess, and determine the appropriate course of action and contact your supervisor as necessary. All employees and Contractors are authorized to stop the work if there is a genuine Health, Safety, Security, or Environmental (HSSE) concern about the work.

Applicable country laws shall be complied with when performing all work. In the event of any inconsistency between the provisions of this document and applicable law, the more stringent requirement shall prevail.

## 2.0 Applicability & Implementation

This document applies to all TPG Employees, contractors, and subcontractors who perform work at TPG Retail locations. This includes TPG Facilities Maintenance, Engineering, Procurement Construction Management contractors (EPCM), Soil & Groundwater Consultants (SGW), Real Estate Consultants (RE), Marketing contractors, IT contractors, and any other contractors or subcontractors performing work at TPG Retail locations.

The method of implementation of these requirements is at the discretion of the individual contractors. At a minimum, these requirements must be reflected in the contractor's most common high-risk activities Job Safety Analyses (JSA), specific procedures, and training programs as applicable.

Please be aware that these are the Shell TPG Control Framework Manual Requirements. These requirements are the minimum level, and adherence to local legislation is mandatory.

If a TPG employee or contractor can't comply with the requirements, they have to report this to their TPG Supervisor or the Contract Owner as soon as possible.

## 3.0 Executive Summary

This document is made to explain the requirements of the Control Framework Manuals, which are applicable to TPG Employees and Contractors.
With Contractor, we mean all Contractors working on Design, Construction, Maintenance, Marketing, Soil & Groundwater, IT, Real Estate, etc.
In most markets, Partner Organizations (e.g., FMC, EPCM, SGW, or RE) manage Contractors on behalf of TPG.
It is the obligation of the TPG Employees and all Contractors to comply with these requirements and to show evidence of this compliance.

The Contract Holder of the Contractor plays a leading role in this Assurance Process.

## 4.0 MANAGING RISK

**Purpose** is to establish a process to identify HSSE Hazards and to reduce the Risks to ALARP (as Low as reasonably practicable).

**REQUIREMENTS**

HSSE Risks are identified and classified, in which controls are identified to mitigate the risks to ALARP.

**Generic Hazards**

- H-01 - Refined Hydrocarbons
- H-03 - Flammable Materials
- H-05 – High Pressure Equipment
- H-06 – Differences in Height / Slips & Trips
- H-08 - Moving Vehicles
- H-08 - Equipment with moving, hot or rotating parts
- H-08 - Use of hazardous hand tools
- H-09 - Weather
- H-15 – Electricity
- H-15 - Electrostatic Energy
- H-20 – CO& exhaust gases
- H-20 - Tobacco Smoke
- H-21 - Fuel additives
- H-21 - Alcohol & drugs
- H-21 - Benzene
- H-22 – Asbestos
- H-23 –Corrosive Substances
- H-24 - Influenza Crisis
- H-24 - Small animals & insects
- H-24 - HIV
- H-25 - Manual Handling
- H-25 - Ergonomics
- H-26 - Poor Lighting
- H-26 - Noise
- H-27 - Security
- H-29 - Psychological Factors
- H-30 - Dangerous Goods
- H-99 - Environmental Effects
- Offsite Hazards
- Confined Space Entry
- Temporary Staff
- Lone Working
- Business Travel
- Food Preparation

Hazard Risks Quick Reference.docx

The TPG Leadership and Partner Contractors need to:

- train all TPG employees and Contractor employees via Safety Meetings or other training programs so that all employees are aware of these risks and controls
- assure themselves that TPG employees and Contractors understand the controls and have implemented them in their JSAs.

TPG Employees and Contractor employees need to ensure that all their employees understand how to mitigate medium and high-risk activities by implementing controls to mitigate the risks to ALARP.

TPG Employees, EPCM, and SGW partners specifically need to review Hazards as existing operations/activities can change in a way that the effectiveness of the Controls and Recovery Measures are mitigated.
This review should take place once a year, and all Incidents, Near Misses and Potential Incidents, Audit Findings, and new Activities are taken into consideration.

After the review, TPG should be informed, and all Contractors should also update their **Contract HSSE Plan**, Safety Meetings, or JSAs to ensure mitigation of the new risks.

## 5.0 EMERGENCY RESPONSE

**Purpose** is to plan and prepare for Emergency Response to incidents that mitigate the Consequences and enable normal operations to be resumed.

**REQUIREMENTS**

There are three actions coming from the requirements of this TPG HSSE & SP Management system manual.

1) TPG and Partner contractors should have an Emergency Response Plan (ERP) effective 24/7 for all risk scenarios under their control. This means that in case of an Emergency after Office Hours or on the Weekend, TPG Maintenance should be available in order to call a Contractor to assist in the emergency (i.e., safeguarding a Site/Canopy).
2) Be aware of their responsibilities in the TPG ERP and provide resources accordingly.
    - In case of an incident on Site, the TPG Maintenance Manager is the Incident Manager, and everybody, including the Contractors, should listen to his/her instructions.
    - If the incident happens within the work area that can be contained by the Contractor Staff, the Contractor Supervisor or Permit Holder will be in charge. However, the TPG Maintenance Manager should be informed of the Emergency Situation so that the TPG Maintenance Manager can take the right steps to safeguard the Site.
3) Minimum requirements for first aid kits should comply with local legislation and include burn kits when conducting Hydrocarbon related hazardous works at the site. Other minimum requirements:
    - First aid kits should be maintained in readily accessible locations on each job site.
    - For mobile or vehicle-based operations in remote locations, first aid kits may be necessary for vehicles.
    - Kits will be inspected for completeness prior to being sent to a work location and on a regular basis while in use. Any items not approved for the kit will be removed during inspection.
    - Appropriate first aid must be used to treat any burns or scalds as soon as possible. This will limit the amount of damage to your skin.

## 6.0 MANAGEMENT OF CHANGE (MoC)

**Purpose** is to manage the HSSE & SP risks resulting from unforeseen consequences of Changes.

The TPG HSSE & SP Management system manual section applies to:

- Specification or Procedural Changes
- Organizational Changes

It is only needed where it may have an HSSE impact.

**REQUIREMENTS**

1) TPG has implemented MoC
2) Contractors should develop and apply their own MoC Procedure
3) Employ stop work authority when a defect or nonconformance to the job by design is observed and escalated to the appropriate technical authority within TPG for appropriate guidance and deviation approvals to the safe work procedure.
4) TPG HSSE Manager is notified

Ad 1) Partner Contractors should inform the relevant TPG Contract Holder if there is a process Change, a Procedural Change, or an Organizational Change within their Organization or their activities which has an HSSE impact for Shell. TPG Contractor Holder should inform HSSE Manager.

## 7.0 PERMIT TO WORK (PtW)

**Purpose** is to manage the risk of Hazardous work and work that could interfere with other hazardous operations.

**REQUIREMENTS**

There are two actions coming from the requirements of this TPG HSSE & SP Management system manual

1) TPG Establish, Implement, and maintain a Permit to Work Procedure
2) Train all TPG Employees, Contractors, Permit Issuers, and Permit Holders when needed

Ad 1) <u>TPG Establish, Implement and maintain the Retail Permit to Work Procedure.</u>

- TPG and Partner Contractors to ensure that all TPG Employees and Contractors are trained with the PtW process and that the PtW process is implemented with every activity on a TPG Site.
- All TPG Employees and Contractors have training logs of all their workers to ensure compliance
- The TPG PtW system is explained in the GIDS standard

Ad 2) <u>Train all TPG Employees, Contractors, Permit Issuers, and Permit Holders when needed</u>

- Partner Contractors and TPG Employees to keep a record of all competent Permit Issuers.

The TPG HSSE Manager can provide the latest version of the PtW version in English, and it is up to the Partner Contractors to translate and adapt it.

## 8.0 PLANNING AND PROCEDURES

**The Purpose** is to integrate the requirements of the TPG HSSE Standards into Business Plans and Procedures.

**REQUIREMENTS**

There are three requirements from this TPG HSSE & SP Management system manual

1) Integrate the HSSE Objectives, HSSE targets, and HSSE plans into the operational Plan
2) Develop and maintain Procedures to implement the requirements of the TPG HSSE Standards and to manage the HSSE Risks
3) Communicate the Plan and Procedures

Ad 1) Integrate the HSSE Objectives, HSSE targets, and HSSE plans into the operational Plan.

- TPG Leadership and Partner Contractors to integrate the HSSE Objectives, the HSSE targets, and the HSSE plans into their Business Plan.

Ad 2) Develop and maintain Procedures to implement the requirements of the TPG HSSE Standards and to manage the HSSE Risks

- Where applicable, TPG Leadership will develop Employee and Contractor HSSE Requirements and Technical Standards and Procedures.
- TPG Employees and Partner Contractors are responsible for applying TPG requirements, including development of operational Standards when needed.

Ad 3) Communicate the HSSE Plan and Procedures

- TPG Leadership and Partner Contractors are responsible for ensuring that the yearly HSSE plan and the TPG requirements are communicated to and implemented by the TPG Leadership and Contractors.

## 9.0 INCIDENT INVESTIGATION AND LEARNING

**The purpose** is to log, investigate and learn from Incidents.

**REQUIREMENTS**

There are seven actions coming from the requirements of this TPG HSSE & SP Management system manual.

1) TPG Employees and Contractors should report all Incidents, including Near Misses and Potential Incidents. TPG will use a designated system, and Contractors can use their own systems for this.
2) In case of an incident (see below), the relevant TPG Contract Holder or TPG Supervisor should be notified as soon as possible
3) TPG Employees and Partner Contractors should make an initial classification of the Incident if needed, with the support of the TPG HSSE Manager
4) The TPG HSSE Manager to log the Incident in Sphera
5) Partner Contractors and TPG Leadership with TPG HSSE support and/or Shell HSSE Global support to investigate the Incident within 30 days
6) Make a final classification based on the outcome of the incident investigation
7) Learn from Incidents, Fatalities, High Potential Incidents, and High Severity Incidents through communication and implementation of required actions

Ad 1) All TPG Employees and Contractors' workers should report Near Misses and Potential Incidents. Partner Contractors should report the number of Near Misses and Potential Incidents (NMPIs) to the TPG HSSE Manager on the 15th working day of the month. If there are any trends or potentially High NMPI they should be reported separately, and Partner Contractors and TPG Leadership should focus on these in the coming month.

Loss of Primary Containment (LOPC) <10KG (12L) should be reported as PI's; LOPCs between10KG-100KG (12L -120L) should be reported as Incident with Consequences and investigated at HSSE Managers' discretion if there are Learnings; LOPCs >100KG (>120L) are reported as a TRC and investigated and reported within 30 calendar days with an LFI within six weeks of the incident (see 2-7)

Ad 2) Partner Contractors need to notify their relevant TPG Contract Holder or TPG Maintenance Director of all Incidents (fatalities, LOPC > 100 KG (>120L), Total Recordable Cases (TRC), Medical Treatment Cases (MTC) and LSR Breaches within 24 hours. The relevant TPG Contract Holder or TPG Maintenance Director should inform the TPG COO and the TPG HSSE Manager.

Ad 3) Partner Contractors and TPG Maintenance Director should make an initial classification of the Incident Fatality, Lost of Primary Containment (LOPC), Total Recordable Case (TRC), Medical Treatment Case (MTC), and LSR Breaches within three days with the support of the TPG HSSE Manager.


Classification TRC or FAC.doc

Ad 4) The TPG HSSE Manager should enter the incident in Sphera and the Contract Holder or TPG Maintenance Director become the Responsible Supervisor.

Ad 5) Partner Contractors and TPG HSSE Manager should set up an Investigation team and this Team needs to finalize the Investigation Report within 1 month (30 Calendar days) after Incident occurring.
This Investigation Report should contain a root cause Analysis, learnings and actions to prevent the same Incident from recurring

Ad 6) After the Investigation report and the review with the NDM the Incident should be classified as final by the Partner Contractor with support from the TPG HSSE Manager

Ad 7) Partner Contractors should make Learning from Incident (LFI) within 6 weeks (Calendar Days) after the Incident occurrence. This LFI should be sent to the relevant TPG Contract Holder and the TPG HSSE Manager and should be communicated to all relevant persons to ensure that the incident will not reoccur.

## 10.0 PERFORMANCE MONITORING AND REPORTING

**The Purpose** is to report HSSE Performance data to Group that are relevant, consistent, transparent, accurate and complete, for consolidation by the VP HSSE Reporting for internal review and public disclosure.

**REQUIREMENTS**
There are 3 actions coming from the requirements of this TPG HSSE & SP Management system manual

1) Partner Contractors and TPG HSSE Manager to collect HSSE & SP Performance data. This data that needs to be collect every month is:
    a. Exposure hours for all contractors and TPG Employees
        - The exposure hours need to be reported by the Partner Contractor to the TPG HSSE manager. This means all exposure hours of all contractors and TPG Employees working for the TPG Account.

- The number of hours can be estimated based on for example the budget. Actual hours would be preferred, if this is possible.
- The estimations must be re-calculated 2 x per year. This should be interpreted as revisiting any assumptions which have been made in calculating exposure hours to ensure they are still valid.

b. Number of Near Misses / Potential Incidents
   - Number of NMPI should be reported to the TPG HSSE Managers.

c. Number of Total recordable Incidents

2) Partner Contractors to report this data to the TPG HSSE manager before the 15th Working day of the month.

**HEALTH**

## 11.0 ALCOHOL AND DRUGS

**The purpose** is to manage the risk caused by the use of Alcohol and Drugs

**REQUIREMENTS**

There are 2 actions from the requirements of this Health Manual

1) Establish and Maintain an Alcohol & Drugs Policy
2) Establish and maintain procedures to implement this Policy

Ad1) Establish and maintain an Alcohol & Drugs Policy

- TPG Leadership to establish and maintain an Alcohol & Drugs Policy and to ensure that Contractors also establish and maintain an Alcohol & Drugs Policy for their own Organization. Policy should include:
  1) Standards of Behaviour
  2) Awareness Training
  3) Testing*

Ad 2) Establish and maintain procedures to implement this Policy

- TPG Leadership to establish and maintain procedures to implement an Alcohol & Drugs Policy and to ensure that Partner Contractors also establish and maintain procedures to implement an Alcohol & Drugs Policy for their own Organization. Procedures should include:
  1) Design of Alcohol & Drugs testing *
  2) Disciplinary Measures

Explanation *:
Alcohol and / or Drug testing may be required where the contractor Staff appearance, actions, or behavior suggest that they may be affected by drugs and/or alcohol ("Reasonable Cause"). In practice there should usually be at

least two people who have seen the person and have reason to believe that the person may be affected by drugs/alcohol, and that the person may be a source of actual or potential harm to themselves or others in the workplace.
Persons involved in an incident (vehicle & mobile equipment incidents, injuries, property damage and near miss incidents) should also be tested if this is required in the investigation of the incident.
Of course legal law and regulations should be taken into consideration.

It is up to the Partner Contractors to take more proactive steps like random tests to all personnel working on a Site (including visitors). This is however not mandatory.

TPG DRUG AND ALCOHOL POLICY.do

## 12.0 FITNESS TO WORK

**The purpose** is to reduce the risk of Injury, Illness or Incidents be evaluation of fitness to Work

For Partner Contractors and TPG Employees this Health Manual applies to:
- Crane Operator Work
- Activities where we need respiratory protection (a tight seal) to protect the user

**REQUIREMENTS**
There are actions coming from the requirements of this TPG Health Manual:
- Partner Organizations to verify that the Contractors are familiar with these requirements of having a Fitness to work certificate before they can start doing their work.
- Contractors doing activities which apply to this manual should have a Fitness to Work process to ensure that the Contractor worker is deemed unfit for the works until the Fitness to work evaluations are completed and the person is deemed fit.

## 13.0 HEALTH RISK ASSESSMENT

**The purpose** is to avoid harm to people due to Health Hazard by carrying out Health Risk Assessment (HRA) and implementing the control and recovery measures specified

**For TPG employees, the inclusion of identified health hazards and controls in JSAs is sufficient – a specific HRA will not be required if this is completed.**

<u>This TPG Health Manual applies to</u>
- TPG Maintenance and most common medium to high risk activities

- All Health Hazards associated with work

## REQUIREMENTS

- TPG Leadership and the Contractor is responsible for implementing the following requirements:
    - Include identified health hazards and how to manage those Health Risks associated in most common medium to high risk JSA's
    - Ensure all required Material Safety Data Sheets are on site
    - Update JSAs periodically

(i) CONTRACTOR will manage occupational exposure to health HAZARDS to whichever of the following is lower, either:

(A) Occupational Exposure Limits set by APPLICABLE LAW or regulations; or

(B) COMPANY Occupational Exposure Limits, shown below

(I) **COMPANY Occupational Exposure Limits for Chemical Hazards:** Benzene

Chemical Abstracts: 71-43-28-

hour time-weighted average: 0.5 ppm or 1.6 mg/m3

15-minute short term exposure limit: 2.5 ppm or 8 mg/m3

(II) **COMPANY Occupational Exposure Limits for Chemical Hazards:** Ethylene Oxide

Chemical Abstracts: 75-21-8

8-hour time-weighted average: 1 ppm or 1.8 mg/m3

15-minute short term exposure limit: -

(III) **COMPANY Occupational Exposure Limits for Chemical Hazards:** Isoprene

Chemical Abstracts: 78-79-5

8-hour time-weighted average: 10 ppm or 28 mg/m3

15-minute short term exposure limit: 50 ppm or 140 mg/m3

(IV) **COMPANY Occupational Exposure Limits for Chemical Hazards:** Man-Made Vitreous Fibres (MMVFs) (Refractory Ceramic Fibres)

Chemical Abstracts: -

8-hour time-weighted average: 0.5 fibre/ml

15-minute short term exposure limit: -

(V) **COMPANY Occupational Exposure Limits for Chemical Hazards:** MMVFs (Fibreglass, Mineral Wool)

Chemical Abstracts: -

8-hour time-weighted average: 1.0 fibre/ml

15-minute short term exposure limit: -

(VI) **COMPANY Occupational Exposure Limits for Biological Hazards:** Legionella

Liquid Sample Result: 100 CFU/ml

(VII) **COMPANY Occupational Exposure Limits for Physical Hazards:** Noise

8-hour limit: 85 dB(A)
Peak Exposure Limit: 140 dB(C)

# PERSONAL SAFETY MANUAL

## 13.0 TPG Commitment and Policy on HSSE, Work Safe Campaign, and Safety Standards

Texas Petroleum Group fully endorses and adopts all elements of the TPG Work Safe Campaign, Shell plc Commitment and Policy on Health, Security, Safety, the Environment and Social Performance, the Group HSSE Golden Rules of complying with the law, standards, and procedures, intervene on unsafe or non-compliant actions, and respect for our neighbors, and the International Association of Oil & Gas Producers (IOGP) Life-Saving Rules as mandatory for the Texas Petroleum Group community.

**Commitment**

In Texas Petroleum Group 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;
- Publicly report on our performance;
- 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, to be a good neighbour and to contribute to sustainable development.

**Policy**

Texas Petroleum Group:

- 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;

- Engages effectively with neighbours and impacted communities; and
- Includes HSSE & SP performance in the appraisal of staff and rewards accordingly.

**Work Safe Campaign**

Safety is a TPG business priority and is a fundamental guideline to follow when completing a job on Texas Petroleum Group properties, through regular engagements, safety stand-downs, tail gate meetings, and safety observation visits. Work Safe means relentlessly pursuing no harm to people and no significant environmental incidents. The goal is to achieve Work Safe sustainably so that everybody goes home safely, and the environment is clean for the neighborhood and our next generations. All TPG Staff and its' contractors have leadership support to STOP WORK by intervening in any unsafe act and condition without hesitation. TPG has established requirements for contractors proven knowledge and competence for risk identification and mitigation, as well as requirements for personal protective equipment (PPE) and safety equipment. All contractors are responsible for giving the appropriate tools to perform their activities safely referring to OSHA, local regulations, and high-risk standard operating procedures. PPE and Safety Equipment Standards are required for every job performed on TPG property. A completed TPG Permit to Work is required for every job performed and to be submitted with all invoices. TPG Leadership and Supervisors retain the right to update and revise these requirements through physically reviewing site operations for continuous improvement.

## Texas Petroleum Group Safety Standards

These are Texas Petroleum Group's (TPG) minimum Safety Processes, Personal Protective Equipment (PPE) and Safety Equipment required for every job performed on TPG property.

Additional safety equipment must be used when necessary to mitigate risks not addressed by the equipment listed below.

Follow all ***Life Saving Rules***.

Perform ***Last Minute Risk Assessment*** before starting every job and whenever conditions change.

***Stop Unsafe Work***. Everyone has the Authority and Responsibility to stop any activity or action that may result in injury, death or damage until the issue is resolved.

**Required Personal Protection Equipment (PPE) to be worn at all times:**

- High visibility outerwear (shirt, jacket, safety vest) all or part safety yellow, orange or green. Must be reflective from dusk until dawn.
- Safety toe footwear
- Long pants
- Shirt with sleeves

**Required Personal Protection Equipment (PPE) available at all times and used when task warrants:**

- Eye protection (Z87)
- Hearing protection
- Gloves appropriate for tasks performed (nitrile, cut resistant A3 or better, material handling abrasion resistant)
- Hard hat

**Required Safety Equipment available at all times and used when task warrants:**

- Eyewash (32 oz minimum)
- First Aid Kit
- Caution Tape
- Safety Cones (minimum 6 cones at least 28" tall)
- A-B-C Fire Extinguisher with current certification (5 pound minimum)

## 14.0 CLEANING OF STORAGE TANK

**The purpose** is to manage the risk associated with the cleaning of Storage tanks

**REQUIREMENTS**

There are actions coming from the requirements of this TPG Personal Safety Manual:

- TPG Maintenance Facilities/EPCM to apply the Hierarchy Of Control as follows:

  **First:** Minimize the need for or reduce the frequency of tank cleaning.

  **Second:** Use Online Cleaning methods that do not require the opening of, or entry into tanks.

  **Third:** Use mechanical cleaning options that do not require workers to enter tanks.

  **Fourth:** Allow personnel entry and manual cleaning of tanks where supported by a documented Risk Assessment. Reference Confined Space Work.

- Contractors to establish and maintain Procedures for tank cleaning in accordance with Internationally Recognized Standards.

  - Procedures must include:

    2.1.1. Pre-cleaning inspection to assess the tank contents and roof condition.

    2.1.2. Precautions during gas freeing to include vehicle and personnel access restrictions, control of ignition sources and weather conditions.

    2.1.3. Emergency Response arrangements during tank cleaning.

- Contractor to apply the Permit to Work for all tank cleaning and recognize, as a minimum, the following Hazards:

  1) fire and explosion;
  2) toxic substances and asphyxiation;
  3) static electricity due to steam and water jetting and grit blasting; and
  4) pyrophoric scale.

## 15.0 CONFINED SPACE WORK

**The purpose** is to prevent or reduce the consequences of Incidents related to planning, preparing, executing and supporting Confined Space Work including Gas Confined Space Entry

**REQUIREMENTS**

This section applies to work in Confined Spaces. A Confined Space is a fully or partially enclosed space:

- that is not designed and constructed for continuous human occupancy, and
- has limited or restricted means for entry or exit, and
- where there is a risk of injury or health effect from hazardous substances or conditions.

See Appendix 2 of the Retail Permit to Work system for examples of Confined Spaces at Retail locations. For specific requirements related to tank entry, see the Global Standard for Manned Entry and Non-Manned Entry of USTs for Cleaning and Inspection.

Appendix 2.docx

<u>The Contractor is responsible for implementing the following requirements:</u>

- Identify Confined Space work (CSW) and implement procedures to manage the risk of CSW:
    - o The CSW procedure must describe local requirements, responsibilities, competence, training and monitoring
    - o All CSW must be controlled by the Permit to Work process
    - o Supervisors must make sure that personnel are informed of the existence and hazards of Confined Spaces and ensure those carrying out entry work are trained
- Reduce risk by applying the Hierarchy of Controls:

**First**: Eliminate the need for CSW

**Second**: Avoid the need for Respiratory Protection or skin protection for CSW by eliminating or minimizing flammable, toxic, asphyxiant or other hazards through emptying, flushing, clearing, and ventilating. Avoid the need for hearing protection, fall protection, lifelines or other types of personal protective equipment by removing or controlling hazards.

**Third**: Specify Respiratory Protection and/or other protective equipment and apply working methods that reduce the exposure time of people in the Confined Space.

The contractor is responsible for implementing the following requirements (to be confirmed by the Permit Issuer prior to issuing the Permit and maintained by the contractor / Permit Holder during the work):

- Verify that the Confined Space is isolated from all potential sources of hazardous material and energy.

• Verify that atmospheric conditions meet the following criteria before entry, and are maintained throughout the work:

| | Without Respiratory Protection | With Respiratory Protection |
|---|---|---|
| Oxygen % | 20 to max. 21.5 | >16 to max. 21.5 |
| Toxics | < ½ OEL | < IDLH |
| Flammables % of LFL | Not detectable (<1) | <10<br>For hot work - not detectable |

• An Authorised Gas Tester must carry out the gas test before the Permit is issued. The test must be documented and provided with the Permit.
All persons involved in gas testing should be adequately trained in the use of gas testing equipment and the interpretation of results, prior to being authorised to undertake gas tests and certify results. The Permit Issuer must ensure

- The work area is clear of flammable and combustible materials before the work starts.
- The tester is competent/trained (incl. a record)
- The equipment has been calibrated and tested.

• The Authorised Gas Tester must test atmosphere continuously to establish that the Confined Space remains free of flammable materials during the work, by means of an Authorised Gas Tester or flammable gas monitoring equipment so occupants in the Confined Space are protected from atmospheric hazards. Investigate any deviation in the oxygen level or in the contaminant level of toxics or flammables, assess the risks and take appropriate action.
• Allow entry into Confined Spaces, with respiratory protection, only when the source,
nature and concentration of the hazardous atmosphere are understood. A competent person must approve the selection of respiratory protection. A competent person must verify the quality of air supplied from bottles, compressors or ventilators.
• If contaminants or heat in the Confined Space can affect entrants' health, provide a plan for ventilation or other controls prior to entry, list the controls with the Permit and verify that the controls are put in place. Do not use oxygen or oxygen-enriched air to ventilate a Confined Space.
• Include in the Permit the controls required to manage the risks from any energy sources used inside the Confined Space. If electrical equipment is needed inside the Confined Space (e.g. lighting) use low voltage equipment if available. If low voltage equipment is not available, an earth leakage current device or ground fault circuit interrupter must be used to protect entrants against electric shock.
• Verify that lighting in the Confined Space allows entrants to see well enough to work safely and to exit the space quickly in an emergency.
• Establish a rescue plan for recovering people from the Confined Space. All equipment and other resources including trained responders needed for a rescue must be readily available whenever people are in the Confined Space.
• Indicate the entry points to be used, and barricade or use signs at all other openings to prevent unauthorized entry.

• Station an Attendant outside the Confined Space.
• Verify that the Attendant is present at all times while entrants are in the Confined Space. Before people enter the Confined Space establish effective means of communication between the people inside the Confined Space and the Attendant outside.

The Contractor is responsible for implementing the following requirements (to be maintained by the Attendant during the work):
• Prevent unauthorized entry and take action if conditions change.
• Maintain a record of numbers and names of people in the Confined Space.
• Monitor the Confined Space from outside at all times while entrants are inside, and maintain communication with the entrants.
• Stop the work and evacuate the Confined Space if ventilation systems fail, contaminants
exceed agreed limits, conditions become unsafe, or other emergencies at the site require
evacuation.
• Activate the emergency response plan in the event of emergency.
    • The Attendant must not attempt a rescue unless it is defined in the rescue plan.

## 16.0 ELECTRICAL SAFETY

**The Purpose** is to manage the risk to people from electrical Hazards

This section applies to:
- construction, installation, operation, inspection and maintenance; and
- isolation, earthing and testing

**REQUIREMENTS**
The Contractor and TPG Leadership is responsible for implementing the following requirements:

- Use a person who is competent in electrical safety to develop and maintain the Electrical Safety Rules for each site. The Electrical Safety Rules of the site must be in line with Internationally Recognized Standards and local legislation.
- Define which people can work on electrical equipment.
- Set responsibilities and requirements for operation, maintenance, identification (labeling) and inspection of electrical equipment.
- Identify the Internationally Recognised Standards, legislation, or requirements to use for equipment design and for control of electrical craftwork.
- Set requirements for electrical work at construction sites.
- Require use of Lock out / Tag out and personal protective equipment to prevent contact with exposed, energized equipment and to protect

people from arc flash (see section 18 for further details on Lock out / Tag out).

- Use only people that are competent to work on electrical equipment and authorised to carry out the assigned work in line with the Electrical Safety Rules.
- Use equipment or work instructions that control static electricity to prevent:
  5) discharge or arc flash that could harm people or damage HSSE Critical Equipment; or
  6) arc flash, fire or explosion due to static discharge from equipment used in Hazardous Areas.
- Manage work on or near electrical equipment and provide safe isolation:
  7) De-energize and isolate equipment as required in the Safe Isolation (LO/TO) Section. Verify that there is no voltage and when required use earthing.
  8) Use physical barriers, protective equipment, special tools or other controls to prevent harm to personnel when it is not possible to de-energize equipment.
  9) Obtain a Permit prior to conducting any high risk live electrical work per the Retail PTW system.
  10) Manage work, equipment and use of ladders near underground and overhead electrical hazards to prevent contact with energized lines or equipment.
- Manage electrical work in design and construction:
  11) Provide a system to review and approve the design, installation and bringing into service of permanent or temporary electrical systems and facilities.
  12) Approve whether newly constructed electrical equipment may be connected to
  electrical power distribution and generation systems.
  13) Verify that electrical drawings are provided and maintained.

## 17.0 EXCAVATION

**The Purpose** is to manage the risk of excavation activities

This section applies to:
• Excavations greater than 1.2 meters (4 ft.) deep

This section does not apply to:
• Well drilling or blasting.

**REQUIREMENTS**
The Contractor is responsible for implementing the following requirements:
• Reduce risk by applying the hierarchy of controls:

**First:** Eliminate the need for excavation by applying trenchless technology.
**Second:** Apply Maximum Allowable Slopes or Benching.
**Third:** Use Shoring or Trench Shields.

- Control excavations in line with the Retail Permit to Work System.
- Apply the Confined Space Work section when working in a confined space.

- Establish and maintain procedures for excavation which must:
  - State that an Authorised Person for excavation must be appointed for each job.
  - Specify safe distances from the edge of excavation for the placement of spoil to avoid collapse for different types of surface or soil.
  - Define means of avoiding underground and overhead infrastructure including:
    - Identification and marking the route of cables, live lines, pipelines or other Hazardous infrastructure; and
    - use hand probing and hand tools only (i.e. no powered excavators) within 0.5 meters (1.6 ft.) of a live line, pipeline or power cable, to prevent damage.
  - Specify means and conditions for soil testing and classification.
  - Define maximum allowable slopes or benching or shoring for excavations greater than 1.2 meters (4 ft.) deep.
  - State the restrictions on the placement and movement of excavation machinery to avoid collapse or risk to personnel, including the use of reverse alarm, mirrors and a flag person when maneuvering near an excavation.
  - Specify measures to minimize the impact of adverse weather conditions.
  - Specify barriers and safety signs.
  - Define safe access and exit for personnel.
  - Define a rescue plan and rescue equipment.

On Greenfield sites where the risk of striking underground services is small, the Contractor shall agree with the Partner Organization in which areas and how deep permit control is not required. Excavations deeper than 1.2 meters shall be considered as a confined space and subject to permit control, both on existing and Greenfield sites.

The Authorised Person for excavation (Permit Issuer) is responsible for the following requirements:

- Implement the procedures established for the type of excavation, including the following:
  - Identify and mark the route of cables, live lines, pipelines or other hazardous infrastructure.
  - Confirm the location of underground and overhead infrastructure before starting work.
  - Apply the specified procedures for soil testing and classification.
  - Inspect excavations and shoring, including areas adjacent to the excavation, for signs of ground instability before each shift, before resuming work

after adverse weather conditions and following any incident that may affect its stability.

**Note**:
If sewers or other underground pipes need to be broken into as part of the work, rats (as they are attracted to wet places) can become a problem and could cause Health issues like Leptospirosis. Leptospirosis is transmitted via direct contact with the body fluid of an acutely infected animal or by exposure to soil or fresh water contaminated with the urine of an animal infected.

## 18.0 HOT WORK

**The Purpose** is to manage the risk of ignition of flammable materials during Hot Work

This section applies to:
• Management of ignition sources during work in, or adjacent to, classified / hazardous areas and equipment that could contain flammable materials.

- Do not smoke outside designated smoking areas
- Electrical and electronic devices (like mobile phones, tablet) are not permitted in Hazardous (1) and Working (2) areas
- (1) Only intrinsically safe Electrical and electronic devices evaluated by third party and demonstrate they are suitable for use by way of a UL, CEN, ATEX listing properly affixed on the device can be used in Hazardous Areas unless specific controls for using none-intrinsically safe equipment are identified in JHA and PTW. Refer to the Electrical Hazard Classification for Retail Sites document (GDS 12.008) for further requirements.
- (2) Electrical and electronic devices whilst working are not allowed and should not be turned on. A person using a phone for making/receiving calls or text messaging whilst working is more likely to have an accident as the threat from distraction is recognized as the main risk.
- One mobile phone is permitted in emergency mode; do not use the telephone for reasons other than emergency purposes.
- Taking pictures outside Hazardous areas is permitted provided the person stays in a safe position and/or protected by appropriate barriers.

This section does not apply to:
• The management of:
  • Health Hazards arising from Hot Work;
  • Ignition potential from permanently installed electrical equipment within a Classified Area; and
  • Ignition in permanently installed operating equipment such as furnaces, boilers and flares;
  • establishing Classified Areas.

**REQUIREMENTS**
There are actions coming from the requirements of this TPG Personal Safety Manual:

TPG Leadership and the Contractor is responsible for implementing the following requirements:

• Reduce risk by applying the hierarchy of controls:

**First:** Eliminate hot work whenever possible. Consider the objective of the project and confirm if there is not another means to accomplish; avoid retrofit work that requires cutting into hydrocarbons. Seek alternative methods that could be used such as mechanical fittings or cold cutting techniques.

**Second:** Carry out work outside the classified area or when the classified area is free of flammable materials

**Third:** Eliminate ignition sources by selecting alternative work methods or equipment.

**Fourth:** Implement controls to avoid co-existence of flammable materials and ignition sources during hot work. Additional Controls must include continuous monitoring of the hazardous area to assure gas free before starting any Hot works and through the duration of the Hot Work Activities. PPE must include Flame Retardant upper body and lower body clothing (coveralls are acceptable). All PPE used for Hot works must be non-static charge generating and meet the requirements of Section 26 of this document. Adopt Hot Works isolation philosophy and Site Temporary Closure Criteria that is defined in GIDS 08.080 in the Fuels Design and Procedures Section.

• People who operate, inspect and maintain equipment to be used for hot work in classified areas must be competent to do so.

• Select, inspect and maintain equipment to be used as a Control for hot work in classified areas.

• Manage hot work in line with Retail Permit to Work requirements, and include a Job Hazard Analysis (JHA) as part of planning the work.

**Before the Hot Work starts:**

The TPG Employee and Contractor is responsible for implementing the following requirements (to be confirmed by the Permit Issuer prior to issuing the Permit and maintained by the contractor / Permit Holder during the work):

• Confirm that equipment which could contain flammable materials is gas free and isolated in line with LOTO Manual section before the work begins.

• Clear the work area of flammable and combustible materials before the work starts. Use visual inspection and test the atmosphere.

**During the Hot Work:**

• Test the atmosphere continuously to establish that the area remains free of flammable materials during the work, by means of an Authorized Gas Tester and flammable gas monitoring equipment.

o Intervene if flammable gas concentrations exceed the established set points.

Stop the work and investigate reasons for deviation.

o Define and communicate corrective action before resuming the work.

• Maintain a fire watch throughout the hot work.

o The Permit Issuer and Permit Holder must establish means of communication

between the fire watch and the workers performing the hot work.

Minimum Specific PPE requirements for working in Hydrocarbon/ Hazardous Zones (e.g. Non-static and Flame Retardant) must be defined and implemented. Examples of PPE requirements for working in hazardous zones can be found in GIDS.

## 19.0 LIFTING AND HOISTING

**The Purpose** is to manage the risks of Lifting and hoisting operations

This section applies to:

- All aspects of lifting and hoisting using pedestal cranes, mobile cranes, overhead and gantry cranes, A-frames, jib cranes, derricks, hoists, and special hoist-supported personnel lifting devices.

This section does not apply to:

- Jacking
- Well operations
- Earth moving
- Fork lift trucks
- Mobile work platforms
- Vehicle maintenance lifts
- Manual lifting

**REQUIREMENTS**

The Contractor and/or TPG Maintenance and Construction Staff is responsible for implementing the following requirements:

- Establish competence assurance requirements for people who supervise or perform lifting and hoisting operations and who inspect and maintain lifting equipment.
- Equipment to be used for lifting and hoisting must be inspected, maintained and certified in line with the manufacturer's specifications and local legislation. Use equipment only for its intended purpose and within its designed operating limits.
- Apply procedures that are approved by a subject matter expert for lifting and hoisting, which must include the following:
    - **Assign an Authorised Person** for the lifting and hoisting operation, **and a Person In Charge Of The Lift.**
    - Conduct a specific JSA to define the lift plan;
    - Assess site factors to define logistics, crane stability, and radius of operation;
    - Assess load factors to define load integrity and stability.

The Authorised Person (Permit Issuer) for lifting and hoisting is responsible for the following:

- Check the lifting and hoisting equipment before all lifts and confirm that:
    - Equipment is suitable for its intended purpose; and
    - Safety devices are installed and operational.

**The Person In Charge Of The Lift is responsible** for the following:

• Ensure equipment on site is the same as that specified in the lift plan
• Confirm that required controls are in place and the lift is carried out as per the applicable lift procedure.
• Keep people clear of overhead loads and areas of potential impact.
• Assign a flagman when moving cranes near overhead electrical lines, reversing or maneuvering in an area with plant, machinery or personnel.

## 20.0 PERSONAL PROTECTIVE EQUIPMENT

**The Purpose** is to manage the risk to people where personal protective equipment is used

This section applies to:
• All TPG Employees
• Contractor workers at all TPG Retail locations; and
• All visitors entering the active work area

This section does not apply to:
• Site staff, customers; their requirements are described in the TPG Operations Policies and Procedures and Handbook

**REQUIREMENTS**
At a minimum, all TPG Employees and contractor workers must wear a high visibility vest, long pants, shirt with sleeves, and safety boots / shoes at all times. Other PPE including hard hats, gloves, eye protection, ear protection, etc must be used as required by the contractor's or employee's risk assessment (i.e., Work Clearance Form / JSA) or by the Partner Contractors' PPE Guidelines.
All Contractor workers must use the following Hierarchy of Control to manage additional PPE use:
**First**: Eliminate the Hazard or exposure.
**Second**: Substitute materials or equipment to reduce the Hazard or exposure.
**Third**: Use engineering controls to keep the hazard from reaching the worker
**Fourth**: Use procedural controls to keep the hazard from reaching the worker
**Fifth**: Use PPE
In cases where PPE must be used, All TPG Employees and Contractor workers must have a procedure to manage PPE usage.
This procedure must:
• Specify where and when PPE must be used
• Specify the types of PPE to be used
• Specify methods for making people aware of when and where PPE must be used
• Specify how people are fitted for PPE
• Specify how people are trained to put on and use PPE and trained in the limitations of its use

• Specify how people verify that PPE remains effective when the hazard, exposure, or controls change

• Specify how to issue, inspect, maintain, store, and replace PPE

• Document the arrangements for people to have fitness evaluation prior to the use of Respiratory Protection in line with Fitness to Work

**Sixth**: Implement and maintain procedures to issue, inspect, maintain, store, and replace, PPE. Specific PPE requirements allow the implementation of procedures and controls for issue, inspection, maintenance, storage, and replacement of all identified PPE.

## 21.0 SAFE ISOLATION – LOCK OUT TAG OUT

**The Purpose** is to manage the risk of exposure of people to Energy and hazardous substances by isolating of equipment and placement of locks and tags

This section applies to:

• Work on equipment in assets, facilities, operations and projects.

This section does not apply to:

• Equipment with flexible wiring and a plug (to insert into a socket) under the exclusive control of the user;

• Isolation of equipment using emergency response procedures;

• Testing of energized electrical equipment

**REQUIREMENTS**

There are actions coming from the requirements of this TPG Personal Safety Manual:

The TPG Employee and Contractor is responsible for implementing the following requirements:

• Protect people from energy and hazardous substances by isolation of equipment, locking movable isolation devices and placing a tag at each point of isolation.

• Establish and maintain isolation and lock out tag out procedures that include the

Requirements below:

- Specify the people who are authorised to isolate, lock out and tag out equipment.
- Identify the types of work that need to be controlled by lock out and tag out and the methods of isolation.
- Specify the method to place and remove locks and tags at each point of isolation and the method to control locks and keys.
- Specify the additional controls required and the method of removal that will
  - Maintain an equivalent level of protection when the person who placed a lock or tag is not available to remove it (i.e. if the person is forced to leave the site unexpectedly).
- Specify the tests to prove that isolation is complete.

• Apply the following Hierarchy of Control for isolation to protect people from energy and hazardous substances:

**First**: Remove equipment from the sources of hazards, or create an air gap or physical break that prevents the hazard from contacting people.

**Second**: Isolate equipment from hazards by using a solid physical barrier.

**Third**: Move to the safe position and lock movable devices, electrical circuit breakers and valves that isolate hazards.

o When applying this control to isolate electrical equipment, verify that electrical back feed is not possible.

• Control isolation and placement and removal of locks and tags by doing the following:

- Shut equipment down and remove or drain any sources of stored energy.
- Isolate equipment from hazards: either disconnect equipment or install or operate isolation devices as close as possible to the equipment being worked on.
- Place locks and completed tags at isolation points to make it clear to anyone who wants to use or work on the equipment that it is isolated. Use locks and tags that:
    - are readily identified as being used only for isolation;
    - identify the person placing the lock and tag and the time the tag was
        - placed; and
    - are substantial, weatherproof and secure enough to prevent
        - Unauthorized or inadvertent removal.
        - Verify that the equipment is properly isolated and that no stored Energy or
    - Hazards remain.
        - When the work is complete, tell affected people about the plans to remove
    - Isolation and put equipment back in service.
        - Require each person to remove their individual lock, and the person(s)
    - Authorised to remove the tag or tags following an agreed plan to remove isolation and tags.
        - Tell affected people what equipment has been put back in service or energized.
- Require workers protected by isolation to comply with the following:
        - Maintain keys used for isolation in your sole possession or maintained safe in a Group LOTO Box.
        - Do not remove a lock or tag other than one you have placed unless you are
    - Authorized to do so by the lock out tag out procedure:

- Do not operate or energize a device that is locked or tagged.

- Advice the person named on the tag, or your supervisor, of any tag that has fallen off, or is misplaced.
  - Remove and return tags as specified by the lock out tag out procedure.

## 22.0 WORKING AT HEIGHT

**The Purpose** is to prevent falls and reduce the consequences if a fall occurs when Working at Height

This section applies to:

- All TPG and contractor work at all TPG locations

**REQUIREMENTS**

There are actions coming from the requirements of this Personal Safety Manual:

- See the TPG Working at Heights Requirements below for more requirements.

**Purpose and Effective Date**

**1.1** The purpose of this document is to set forth requirements to prevent falls and reduce the Consequences if a fall occurs when Working at Height (see definition below, Section 3) at TPG locations.

**1.2** This document is effective December 3, 2022.

**Applicability**

**2.1** This document applies to all people at TPG locations who:

- Gain access to and work at height
- Design, construct, put in place, and/or inspect structures and equipment to facilitate work at height; and
- Plan or are involved with Emergency Response.

**2.2** This document applies to all **Contract Holders,** responsible for implementation of TPG HSSE Standards through Contractors

**2.3** This document applies to all **Authorized persons** who inspect **Fall Protection Equipment (see definition below, in Section 3)**

**2.4** This document shall apply to all contractors, subcontractors, vendors and third parties ("Contractors") who perform Work at Height at TPG locations. The requirements in this document shall apply in addition to the TPG Policies and Procedures and the Contractors' requirements, which shall comply with all applicable laws and be consistent with the requirements of this document. The detailed application and compliance with this document shall be the sole responsibility of the Contractor and TPG Leadership. The contractor and TPG Leadership shall train its employees and workers on the requirements of this

document and require compliance with this document when performing work at a TPG location.

**2.4.1** When entering into contracts with Contractor(s) who will perform Work at Height, the TPG business unit that is retaining the Contractor(s) shall include contract provisions that incorporate this document by reference as part of the contract.

**2.5** Safety is the number one priority for all work performed. No one shall compromise safety in any way. If there is any doubt as to whether an activity is safe; stop, assess and determine the appropriate course of action and contact your supervisor as necessary.

**2.6** Applicable national, state and local laws and regulations shall be complied with when performing all work, and shall take precedence when they conflict with or are more stringent than this document.

**Definition of Work at Height**

For purposes of this document, "**Work at Height**" is defined as work performed where a potential fall distance of 1.8 meters (6 feet) or more exists.

**Fall Protection Equipment** is defined as: a device, such as a safety net, body harness, lanyard or lifeline, used for minimizing the distance or Consequences of a fall

Examples of Work at Height include:

- Work on inclined platforms such as a roof where the overhanging edge is unguarded and is 1.8 meters (6 feet) or more above the ground
- Work on level platforms 1.8 meters (6 feet) or more above the ground. Given the relatively small shop roofs and canopies within retail stations and the often still used "day lights" on sites, the full roof is considered as a working area. This makes no exemptions for distances from an edge or "day light", so either edge protection or fall protection must be in place.
- Gaining access to work at height
- Work at ground level 1.8 meters (6 feet) or less from an unguarded edge of an excavation or oil and grease separator that is 1.8 meters (6 feet) or more in depth. The working area should be barricaded and shall keep unauthorized people at a minimum safe distance of at least 1.5 meters away. This can be provided by either a fixed barricade or a safety line.
- Work outside the confines of a platform, such as leaning over a guardrail, 1.8 meters (6 feet) or more above ground

The potential fall distance is based on the elevation where the person is standing or sitting to perform the Work at Height and includes potential falls to lower levels, such as the lower levels of a structure, excavations, holes, pits, etc., and also applies to the use of ladders.

Typical Retail activities that involve Work at Height include:

- Canopy repair, painting & cleaning (including fascia work, re-lamping, red bar repairs, Shell logo repairs)
- Repairing, repainting, and re-lamping of Shell monolith
- Rooftop inspection, repair & weatherproofing
- Building repairs and repainting

- Installation and maintenance of technical installations (CCTV, HVAC, ventilators, etc.)
- Construction activities (i.e. canopy erection, building construction, etc.)
- Installation of promotional materials (i.e. streamers, buntings, hot air balloons) on top of canopy and building rooftop
- Tank top work in open excavations
- Work at ground level 1.8 meters (6 feet) or less from an unguarded edge of an excavation or oil and grease separator that is 1.8 meters (6 feet) or more in depth.

When traversing from the roof edge to the working area people must be protected.

Extra care should be taken to lift tools and equipment onto the roof. It can for instance be done via back-pack, rope & pulley or crane. During such operations all rules with regard to working at height shall be adhered to.

Lone work at height is not allowed, unless a solid protected edge higher than 1 meter is available. Retailer staff cannot be considered as a second person, since they are not consistently monitoring and they are not trained in case of emergency to deal with for instance suspension trauma or evacuation at height.

Weather conditions should always be taken into consideration. Clear guidelines are available throughout this document for wind conditions. Focus should also be on slip and trip especially during rainy or icy conditions.

Work at Height is an activity that requires a Job Safety Analysis and may require a Permit to Work. Work at Height is an activity that requires a Job Safety Analysis.

Although not directly covered by this standard, work which is less than 1.8 meters (6 feet) in elevation still presents significant risk. An appropriate risk assessment shall be made by individuals working at elevations less than 1.8 meters (6 feet) and appropriate job hazard control measures shall be in place. Applicable country laws shall be complied with when performing working at height.

**Definition of a Competent Person**

For the purposes of this document, a competent person is defined as a person who is qualified and authorized to perform a particular type of work task, including but not limited to performing Work at Height. A competent person must have the ability to identify hazardous conditions and have the authority to take action to maintain a safe workplace.

Partner Contractors and TPG Leadership must verify the competence of people who:

- Inspect, maintain or repair Fall Protection Equipment*
- Inspect, maintain or repair ladders
- Use Fall Protection Equipment; and
- Construct or inspect temporary work platforms

The Partner Contractors' and TPG Leadership Authorized Person who inspects Fall Protection Equipment* and ladders is Responsible to:

- Periodically inspect Fall Protection Equipment and ladders in line with manufacturers' recommendations.
- Verify that Fall Protection Equipment and ladders that fail inspection are not used. Those items failed should be quarantined away and labelled "NOT FIT FOR USE".

* **Fall Protection Equipment** is defined as a device, such as a safety net, body harness, lanyard or lifeline, used for minimizing the distance or Consequences of a fall

As a guideline a competent person using a harness has at least 2 years' experience and as a reference has completed one day of training in the following topics:

Authorized User Class includes: (1 day/8hrs)

- Establishing definitive parts of Personal Fall Arrest Systems, including body supports, lanyards, self-retracting lifelines, rope grabs, and anchorage components.
- Anchorage points: determination and suitability
- Compatibility between components
- Arresting forces (limits, methods to reduce, etc.)
- Fall Distances (limits, deceleration distances)
- Ladder climbing systems
- Horizontal lifeline systems
- Rescue and retrieval systems
- Rope grab systems
- Self-retracting lifelines
- Confined space equipment
- Abundance of hands-on and exercise systems
- Inspection, Care and Maintenance of fall protection equipment
- Suspension Trauma

Authorized persons (trained in line with the above) are allowed to work with a competent person (trained AND at least two years' experience) in a crew on a job.

**Training and Fitness to Work**

All persons who perform Work at Height shall be trained in the hazards associated with Work at Height and any equipment to be used while performing Work at Height. All persons involved in the planning and supervision of Work at Height, or in the inspection of equipment to be used shall be trained in the hazards of Work at Height and the steps necessary to safeguard people during Work at Height activities.

All persons who perform Work at Height shall be physically fit to perform the job.

**Hierarchy of Control**

Where there is a risk of a fall, apply the following Hierarchy of Control (priority from highest to lowest):

1) Eliminate the Work at Height, if feasible and practical.
2) Work from permanent work platforms provided with guardrails and toe boards.
3) Work from temporary or movable work platforms (e.g. scaffolds or platform ladder) provided with guardrails, unless the use of or construction of the temporary or movable work platform is not feasible and practical, and presents a greater hazard than using a fall protection device.
4) Work at Height using personal Fall Protection Equipment.

One of the methods described in this Hierarchy of Control shall be used at all times when working at height above 1.8 meters (6 feet). The only exceptions to this are when using a ladder to traverse to and from the work area (only if less than 6 meters or 20 feet) and for the specific activities described in section 7.4.

For all Work at Height, there shall be a documented demonstration that a control higher in the hierarchy is not reasonably practicable. This shall be done as part of the Job Safety Analysis or as applicable prior to performing the work. No work shall commence unless one of the above measures (or a combination) are in place.

**Work at Height Equipment Selection**

Depending upon the work to be performed, the following equipment may be used when performing Work at Height:

- Scaffold or wheeled scaffold erected by a competent person
- Scissor lift
- Aerial lift, cherry picker or bucket truck
- Stand alone ladders (access only)
- A-frame or multipurpose ladders

Appropriate Personal Protective Equipment (PPE) must be worn at all times. At a minimum, all TPG Employees and contractor workers must wear a high visibility vest, Safety helmet and safety boots / shoes at all times. Other PPE including gloves, eye protection, etc must be used as required by the contractor's risk assessment (i.e. Work Clearance Form / JSA) or by the Partner Contractors' PPE Guidelines.

Fall protection equipment (e.g. safety harness with shock absorbers and lanyards) is required to be used for working at height operations when the hazard cannot be eliminated by engineering controls. See sections 6 and 8 for more information on when fall protection equipment is necessary.

## 7.1 Scaffolds

### 7.1.1 All scaffolds

People, who design, construct and/or inspect scaffolds, or use mobile work platforms and equipment to facilitate work at height are Responsible for:

- Build, operate, inspect and maintain scaffolds, or use mobile work platforms and equipment for lifting people (e.g. winches, basket transfer equipment) in line with Internationally Recognised Standards
- Whenever Reasonably Practicable, build ladders within the structure of multilevel scaffolds to minimize the potential fall distance.
- When it is not Reasonably Practicable to build a ladder within the scaffold and the potential fall distance is more than 6.1 meters (20 feet), use a ladder-climbing device such as an inertia reel fall arrestor.
- Tie-off as required per accepted practices for work at height, equipment design, or manufacturer recommendations.
- Scaffolds must be erected by a competent scaffold erector
- Scaffold floorboards, stairwells, ladders and all means of access must be free from obstructions that can cause workers to trip and fall
- Guardrails, midrails and toe boards should be in place. The minimum height for the top guardrail is 1 meter. An exception can be made for scaffold used for the façade/brick work as long as the distance between wall and scaffold (wall facing side) is less than 20 centimeters.
- Scaffolds should always be labeled with green or red tags as applicable or similar local requirement.

- Ladders or other objects must not be placed on scaffolds to increase height
- Base plates and mudsills must be used on soft ground
- The height of the scaffold cannot exceed 3.5 times the minimum base dimension (short side)
- Scaffolds shall not be used or built when winds exceed 50 km per hour (35 miles per hour)
- A barricade shall be constructed 1.5 meters (5 feet) from the base of the scaffold
- The use of a safety harness on a properly erected scaffold is not required.
- Scaffolds should be visual assessed before every shift,
- Control measures should be in place to avoid non approved access when left overnight. This is not applicable within a fenced area.

### 7.1.2 Wheeled/mobile Scaffolds

- Wheeled scaffolds should be erected as per manufacturer's manual and design. Maximum working height 3 meters outdoors and 3.5 meters indoors.
- All **steel** mobile scaffolds are banned from use on Shell sites, since the weight might hinder good working practices and they are more prone to assembly issues. Finally the risk of cuts and abrasion is much higher.
- The wheeled scaffold shall not be moved with people or loose and unstable equipment on top of them.
- After moving a mobile scaffold it should always be inspected visually and checked for stable support and locked wheels.
- Wheeled scaffolds designed for external access according to manufacturer's guidelines can be accessed externally.
- All wheels must be locked when wheeled scaffold towers are in use
- If out riggers are available on the equipment, they must be deployed

### 7.1.3 Fixed Scaffolds

- Scaffolds must not be climbed. Scaffolds may be accessed by using internal ladders and stairwells with hatch access to the work platform. External ladders shall not be used.
- Scaffold planks shall extend over their end supports not less than 15 cm (6 inches) or more than 45 cm (18 inches)

- Guardrails, midrails and toe-boards shall be provided for scaffolds above 1.8 meters (6 feet)
- The scaffold must be constructed on a level surface or the scaffold design must take into account the surface slope
- Scaffold will be anchored according to local industry standard
- The scaffold shall be capable of supporting without failure at least four times the maximum intended load. The capacity should be clearly displayed on the scaffold.
- The scaffold must be erected in proper sequence to eliminate or limit a risk of falling. If risk of falling during erection or dismantling is not possible, vertical anchoring on the scaffold is allowed, provided that the scaffold manual identifies anchor points.

## 7.2 Scissor lift

- The scissor lift shall be used on a surface that allows stability of the equipment in the raised position
- Scissor lifts shall not be used when winds exceed 50 km per hour (35 miles per hour)
- Barricading shall be constructed around the work area
- If stabilizers are available on the equipment, they shall be deployed
- Fall restraint is not required while working on scissor lifts unless required by local legislation or if the worker is going to be on the platform whilst it is moving.
- Pay attention to good quality tires

## 7.3 Aerial lifts (i.e. cherry picker, bucket truck)

- Aerial Lifts may be used for access to roofs and canopies if appropriate for the work conditions
- The aerial lift basket may only be lowered onto a roof when the basket is more than 1.8 meters (6 feet) from the roof edge
- Fall restraint harness must be worn at all times and tied off while in an aerial lift basket

- The aerial lift must be used on a surface that allows stability of the equipment in the raised position
- Aerial lifts shall not be used when winds exceed 50 km per hour (35 miles per hour)
- Barricading shall be constructed around the work area
- If out riggers are available on the equipment, they must be deployed
- Pay attention to good quality tires

## 7.4 Ladders


Work from stand alone ladders is not allowed. Inspections are considered work. Stand alone ladders may only be used for access purposes.

When using a ladder < 20 feet or 6 meters, no fall protection is needed when maintaining a three point contact.

When climbing up or down using an (uncaged) ladder for access > 20 feet or 6 meters a safety device should be used-- for instance inertia reel fall arrester.

A-frame or multi-purpose ladders may be used for work provided they are stable. Stability can be achieved by either using the ladder on a level surface, having a second person foot the ladder (only possible if there is no risk of falling objects) or by securing the ladder to a fixed object.

Chain or rope ladders are prohibited unless **ALL** other means of accessing the work area have been considered and are not possible.

### 7.4.1 Ladder Positioning

Use ladders only on stable and level surfaces, unless the ladders are secured to prevent accidental displacement. Do not use a ladder on a slippery surface, unless you secure the ladder or it has slip-resistant feet to prevent accidental displacement. Slip-resistant feet on the ladder are not a substitute for the safe placement, lashing, and/or securing/holding of the ladder. Ladders shall be placed so that the two rails are supported equally. Barricading shall be constructed around the work area.

### 7.4.2 Falling object hazards

Always keep the area around the top and bottom of the ladder clear. Secure all tools and equipment that are being carried up a ladder. Always use tool lanyards where practical. The bottom of the ladder should be barricaded to prevent movement by unauthorized personnel, and to ensure that no one is standing in an area where they may come in contact with a falling object.

### 7.4.3 Ladders in traffic flow

Ladders shall be secured in any location where they can be displaced by workplace activities, pedestrian traffic or vehicular traffic, such as in passageways, doorways, or driveways. You may use a service vehicle as a barricade to keep activity or traffic away from the ladder. Signs may also be used to alert pedestrians to not open doors when ladders are used in doorways.

### 7.4.4 Ladder Use

**Inspect all ladders before use for damage and suitability**

- Ladders shall not be loaded beyond the maximum intended load for which they were built, nor beyond their manufacturer's rated capacity
- Ladders shall be used only for the purpose for which they were designed
- Always keep ladders free of oil, grease, and other slipping hazards
- Ladders shall not be painted, unless a transparent paint or varnish are used
- The top rung (or top step of a step ladder) of a ladder shall never be used as a step
- When using an extension ladder to gain access to a roof or other high work platform, the side rails of the ladder must extend at least 1 meter (3 feet) above the level of the area being accessed and the ladder should be placed on a 75 degree angle or 1:4 ratio
- Do not use single rail ladders, rope ladders, chain ladders or ladders constructed on the job site
- Do not move, shift or extend a ladder when someone is on it
- Do not overreach beyond the rail of the ladder (a person's midpoint shall not extend beyond the rail of the ladder)
- Ladders shall not be used if there are any visual restrictions such as a welding helmet.
- Ladders shall not be used when winds exceed 50 km per hour (35 miles per hour)

### 7.4.5 Climbing

- Always face the ladder when climbing up or down
- Always maintain three-points-of-contact (one hand and two feet, or two hands and one foot) when climbing up or down. When gaining access, the body supported by a D ring is also considered a point of contact.
- Workers shall not carry any object or load on a ladder that may cause the worker to lose balance and fall
- Do not use the cross-bracing on the rear of a ladder for standing or climbing unless the ladder is designed and provided with steps for climbing on both front and rear

**Fall Prevention / Protection Systems**

When working at height where a potential fall distance of 1.8 meters (6 feet) or more exists, the worker shall be protected by a guardrail, parapet wall, safety net, other fall prevention system or a personal fall arrest system. It is the responsibility of the

employer to provide appropriate fall prevention / protection systems and train employees how to properly and safely use them.

## 8.1 Fall prevention systems

These are engineering controls, systems, design elements, construction standards, or equipment intended to provide for safe work and to eliminate the risk of falling. Examples of fall prevention are parapet walls, properly constructed safety guardrail systems, properly constructed scaffolding, edge warning and demarcation systems, and scissor lifts with protective railings installed.

### 8.1.1 Properly constructed guardrail

This consists of a top rail 1 meter (42 inches, +/- 3 inches) high, mid rails, toe boards, screens or mesh as appropriate.

### 8.1.2 Parapet wall

Parapet walls shall meet the same requirements as a guardrail system.

## 8.2 Fall Protection Systems

These are personal protective gear and systems designed, installed, and worn for the purpose of preventing injury in the event of a fall from heights greater than 1.8 meters (6 feet). An example of fall protection is a full body safety harness with properly sized shock absorbing lanyards attached to properly designed and installed anchor points or static lines.

### 8.3 Use of Fall Arrest Equipment

Fall-arrest equipment is the primary Personal Protective Equipment (PPE) required to be used for working at height operations when the hazard cannot be eliminated by engineering controls. Working at a height where the feet of the worker are 1.8 meters (6 feet) or higher above the ground shall not commence unless:

- A fixed platform is used with guardrails or handrails, verified by a competent person, **or**
- Fall arrest equipment is in use that has:
    - Anchor points which should be pre-determined as far as numbers, quality and regular testing and are verified to meet Internationally Recognized standards or local requirements, as appropriate.
    - Been visually inspected before each use
    - A communication plan to inform workers who need to know about tie-off points must be in place.
    - Full body harness using double locking snap hooks at each connection
    - 100% tie off (e.g. double lanyard) at all times included when traversing to and from the work at height
    - 100% tie off when moving at height and:
        - within 1.8 meters (6 feet) of a Flat roof or platform edge without a guardrail; or
        - on a Pitched roof regardless of proximity to edge
    - Synthetic fiber lanyards

- Shock absorber

- Fall arrest equipment must limit free fall to 1.8 meters (6 feet) or less and ensure at least a 1 meter safety distance after a fall.
- A visual inspection of the fall arrest equipment and system is completed and any equipment that is damaged has been taken out of service.

A Scissor lift only requires the use of Fall Arrest equipment if there are anchor points available from the manufacturer. For Aerial lifts (i.e. cherry picker, bucket truck), Fall Arrest equipment should always be used accordingly with suitable anchor points provided.

### 8.3.1 Personal Fall Arrest System

A system used to arrest a worker in a fall from a working level. It consists of an anchorage, connectors, a body harness and may include a lanyard, deceleration device, lifeline, or suitable combinations of these. Proper anchorage points must be used at all times. Employers using personal fall arrest systems shall properly train employees and have a rescue plan for any employee who falls.

### 8.3.2 Operational requirements

When using harnesses and lanyards, specific care shall be used to determine the height of the anchor point compared to the maximum length of any potential fall. Lanyards of the correct length shall be used such that any potential free fall is limited to a length of 1.8 meters (6 feet). In addition, lanyards shall be the correct length that prevents contact with any and all lower level(s) by the worker in the event of a fall. Self-retracting lanyards may be used, but shall limit any potential free fall to 0.6 meters (2 feet). Self-retracting lanyards shall also be used in a manner that prevents contact with any and all lower level(s) by the worker in the event of a fall.

**Rescue Plan**

For all Work at Height, a plan to ensure that there is an efficient response to any incident involving persons falling shall be implemented. Drills shall be conducted to test the plan and response. The drills must be often enough to ensure that responders will be able to handle the possible Work at Height scenarios. Suspension trauma is a considerable risk that might occur even 5 minutes after the incident.

People who plan or are involved in Emergency Response are Responsible to:.

- Determine the method(s) used to rescue people who have fallen, are suspended in a harness and could develop Suspension Trauma.
- Verify the Competence of people who perform rescues.

The Rescue Plans shall as a minimum:

- Have a Plan and method describing how to bring injured people down from the roof in different conditions
- Specify actions to rescue persons who are suspended in their harness and could develop suspension trauma.
- Rescue equipment needed for the job and availability
- Emergency phone numbers and routes to nearest hospital
- How to deal with equipment failure and people being elevated at that stage

## Inspections for Equipment Used When Working at Height

### 10.1 Scaffolds

Scaffolding shall be conspicuously tagged with a red tag at the beginning of scaffold construction to indicate that it cannot be used. Before a scaffold (including wheeled scaffolds) is used, a competent person shall inspect the scaffold to determine it is safe for use.

In addition, the scaffold shall be visually inspected for potential damage and defects by a competent person before each work shift and after any occurrence that could damage or otherwise affect a scaffold's structural integrity. The scaffold shall be conspicuously tagged with a red tag to indicate it is not safe for use if it is determined the scaffold is damaged or defective.

The competent person who inspected the scaffold shall replace the red tag with a green tag only after he or she has determined the scaffold is safe for use.

### 10.2 Scissor lift

Scissors lifts shall be inspected for visual defects by a competent person before each work shift, and after any occurrence which could affect a scissor lift's structural integrity.

### 10.3 Aerial lift (cherry picker, bucket truck)

Aerial lifts, bucket trucks, and cherry pickers shall be periodically inspected according to the requirements of the manufacturer of the lift.

### 10.4 Ladders

A competent person shall inspect each ladder for visible defects on a periodic basis (at least once per week) and after any occurrence that could affect their safe use. This person must be familiar with the hazards associated with ladder use and be authorized to take appropriate action necessary to eliminate any hazard.

#### 10.4.1 Ladders with defects

Portable or fixed ladders must be taken out of service if they have structural defects. Examples of structural defects include:

- Broken or missing rungs, cleats, or steps
- Broken or split rails
- Missing or damaged non-slip feet
- Missing load rating sticker
- Corroded or damaged components
- Other faulty or defective components

#### 10.4.2 Removing Ladders from Service

To remove a ladder from service, one of the following must be done:

- Immediately tag the ladder with “Do Not Use” or similar language
- Mark the ladder in a manner that readily identifies it as defective
- Block the ladder (for example, with a plywood attachment that spans several rungs)

#### 10.4.3 Ladder repairs

Before the ladder is returned to use, it shall be repaired and restored to its original design specifications.

### 10.5 Fall protection equipment

Fall protection equipment shall be inspected prior to each use for wear, damage and other deterioration, and defective components shall be removed from service.

All equipment shall be maintained according to manufactures or local legal standards and requirements by a competent person. Records shall be kept for maintenance, repairs and inspections.

## Electrical Hazards Impacting Work at Height

Work shall not be permitted within 3 meters (10 feet) of an electric power circuit where contact could be made in the course of work, unless the worker is protected against shock by de-energizing the circuit and grounding it or by guarding it effectively by insulation or other means. This applies to overhead electrical wires and power circuits.

If the lines are within 10 meters (30 feet) or less from the works, the network / utility operator shall be consulted.

Portable ladders, aerial lifts (i.e. cherry picker, bucket truck) and all other work at height equipment shall have nonconductive side rails if they are used where the worker or the ladder could contact exposed energized parts.

Lockout/Tag out requirements shall be followed as applicable.

## References

## Working at Height: Country Regulations, Standards & References

This list of country-specific regulations, standards & references has been developed as a supporting tool for the implementation of TPGs Working at Heights HSSE Requirements and is referenced in several areas of supporting guidance. —check your local legislations requirements often.

### US OSHA

- **OSHA Health & Safety Topics:** Fall Protection
- **OSHA 3146** Fall Protection in Construction
- **OSHA 29 CFR 1910. 21–23** General Industry
- **OSHA 29 CFR 1910.27** Fixed Ladders
- **OSHA 29 CFR 1910.66** Powered Platforms for Building Maintenance
- **OSHA 29 CFR 1926.104** Personnel Protective Equipment – Safety Belts, Lifelines and Lanyards
- **OSHA 29 CFR 1926.105** Personnel Protective Equipment – Safety Nets
- **OSHA 29 CFR 1926.500 Sub Part M** Construction Industry, Fall Protection

- **OSHA 29 CFR 1926.450 Subpart L** Scaffolds
- **OSHA 29 CFR 1915.159** Maritime Industry: Personal Fall Arrest Systems (PFAS)
- **OSHA 29 CFR 1917.119** Marine Terminals: Portable Ladders

**These may be obtained from OSHA's website at http://www.osha.gov/index.html**

**US ANSI (Industry Standards)**

- **ANSI A10.14 – 1991** Requirements for Safety Belts, Harnesses, Lanyards and Lifelines for Construction and Demolition Use
- **ANSI Standard ANSI A10.11-1979**, American National Standard for Safety Nets Used During Construction, Repair and Demolition Operations
- **ANSI A14.3 – 1992** Ladder Safety Devices
- **ANSI/ASSE A10.8-2011 & Comparison Document** Scaffolding Safety Requirements
- **ANSI/ASSE A10.11-2010** Safety Requirements for Personnel & Debris Nets

- **Z359 Fall Protection Code Version 2.0**

- **ANSI Z359.1 – 1992** Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components
- **ANSI/ASSE Z359.2-2007** Minimum Requirements for a Comprehensive Managed Fall Protection Program
- **ANSI/ASSE Z359.3-2007** Safety Requirements for Positioning & Travel Restraint Systems
- **ANSI/ASSE Z359.4-2007** Safety Requirements for Assisted-Rescue & Self-Rescue Systems, Subsystems & Components
- **ANSI/ASSE Z359.6-2009**
  Specifications & Design Requirements for Active Fall Protection Systems
- **ANSI/ASSE Z359.12-2009**
  Connecting Components for Personal Fall Arrest Systems
- **ANSI/ASSE Z359.13-2009**
  Personal Energy Absorbers & Energy-Absorbing Lanyards
- **ANSI/ASSE Z359.14-2012** Safety Requirements for Self-Retracting Devices for Personal Fall Arrest & Rescue Systems

American Petroleum Institute (API) Recommended Practice 1646, Section 7 (August 2006) - Available from API

ANSI A 10.8-2001 "Safety Requirements for Scaffolding"

For more information on Working at Height, please visit the following web sites:

http://www.osha.gov/SLTC/etools/scaffolding/index.html

NOTE: (1) Please note that distances are quoted in this document in both metric (meters) and imperial (feet) units of measurement. Where both units of measurement are quoted, they are designed to reflect various requirements and they do not represent an exact conversion.

## TRANSPORT MANUAL

### 23.0 DRIVER SAFETY

**The Purpose** is to manage the risk of driving and transportation of people and goods on Company Business

For TPG Employees and Partner Contractors this manual applies to all Contractors and TPG employees who work and drive on company business for Texas Petroleum Group. Commuting is out of scope.

**REQUIREMENTS**

1) TPG Employees must follow the TPG Driver Safety and Business Travel Policy.
2) All Contractors will observe the IOGP 459 Life Saving Rules, available at https://www.iogp.org/life-savingrules/ and will comply with these

Driver Safety and Business Travel Policy.pdf

## ENVIRONMENTAL

### 24.0 OZONE DEPLETING SUBSTANCES

**The Purpose** is to manage the risk from the release of Ozone Depleting Substances

This manual section applies to:

- TPG Assets, Shell Assets, facilities, operations, projects and activities.

This manual section does not apply to:

- Domestic-Sized Appliances or drinking water coolers containing Ozone Depleting Substances in sealed systems.

**REQUIREMENTS**

For more Information see also the GIDS Technical Bulletin 05.002
There are actions coming from the requirements of this Control Framework Manual:

The TPG Facilities and Maintenance Department is Accountable for the following requirements:

- Identify Ozone Depleting Substances and maintain an inventory until they are eliminated.

- Eliminate Halons and Hard CFCs in all operations by end-of-year 2010 and eliminate HCFCs by end 2020 in accordance with the Montreal Protocol.
- Do the following until the substances in requirement 2 are eliminated:
    - Remove Ozone Depleting Substances from Non-Sealed Systems.
    - Provide controls to prevent loss of Ozone Depleting Substances.
    - Provide controls for recovery and destruction of Ozone Depleting Substances.
        - Do not transfer Ozone Depleting Substances to third parties for re-use. Where permitted by legislation, in-company transfers and transfer to Halon banks are permitted.
- Put controls in place so that new installations are not fitted with HCFCs from beginning of year 2010 onwards.
- Provide terms that comply with the requirements above in contracts for the purchase, service or disposal of equipment or refrigerant that contains Ozone Depleting Substances.
- Make Contractor Workers aware of any equipment that contains Ozone Depleting Substances and the controls required before they perform work that could release these substances.
- Apply the Permit to Work system to control work on, or disposal of, equipment that contains Ozone Depleting Substances in line with the requirements above.

The following policies have been adopted to manage the risk of releasing Ozone Depleting substances:
TPG maintains an inventory of all equipment that contains ODS and a plan that includes logistics and financials to remove and reduce ODS from TPG facilities. When a significant component on said equipment has failed, or a system has chronic leaks, TPG replaces the system. TPG has design controls to monitor leaks and prevent the loss of Ozone Depleting Substances. TPG will remove all ODS from nonsealed systems and control the recovery and destruction of ODS. TPG does not transfer the ODS to third parties for re-use. New installations are not fitted with HCFCs. Any contracts for purchasing, servicing, or disposing of equipment or refrigerant will comply with these requirements. TPG notifies any contractors or TPG Staff working on the equipment of the controls required before they perform work that could release these substances, including the Permit to Work system.

## 25.0 SOIL AND GROUNDWATER

**The Purpose** is to manage risks due to soil and groundwater contamination.

Retail compliance with Soil and Groundwater Manual is called the RBSAM (risk based site asset management) program.

**REQUIREMENTS**

There are actions coming from the requirements of this Control Framework Manual:
Standards applicable to RBSAM cover the site life cycle (Acquisition, Operation, Minimum equipment standards & disposal) managed by TPG Real Estate, Environmental services, HSSE, and Engineering.
For Engineering, the applicable standards include

- GIDS 08.001 Governing principles for fuel systems
- GIDS 08.024 Product loss investigation procedure
- GIDS 08.040 UPSS minimum requirements
- GIDS 04.011 Retail HSSE Critical Equipment Inspection and Testing Requirements
- GIDS 04.012 NTS checklist

- TPG technical authority (TA3 – L2 Model) should install and maintain equipment and/or comply with procedures to minimize the risk of leaks and spills.
- TPG technical authority to inspect and maintain leak detection and/or containment systems.

## 26.0 WASTE

**The Purpose** is to minimize the generation and optimize the re-use of recycling and disposal of Waste

This manual section applies to:

- All Waste material from TPG installations and activities as described in the different Business Models.

This manual section does not apply to:

- discharges to surface water;
- atmospheric emissions;
- re-injected production water or gas.

**REQUIREMENTS**

TPG and Contractors are Accountable for the following requirements:

- Incorporate controls to reduce Waste generation into Procedures and working practices.
- Identify opportunities to reuse Waste for the same or alternative applications, including in other industries, or return unused materials to suppliers.
- Identify recycling and recovery opportunities for Waste material.
- Identify, segregate and store Waste.

- Transport and Dispose of Waste.
  - Verify that trans-national movement of Waste meets the requirements of the Basel Convention.
  - Verify that all other transport of Waste meets Internationally Recognized Standards.
  - When disposing of Waste use where appropriate, government-approved disposal sites, methods and contractors.
  - When disposing of Hazardous Waste maintain segregation from other Waste and use disposal sites that also meet Internationally Recognized Standards.
  - Conduct Land Farming only after considering the risks of leaching or build-up of hazardous substances, and implement appropriate mitigation measures to manage the risks.

Retain Waste tracking records for periods defined by local legal requirements and report Hazardous to the TPG HSSE Manager.

## COMPETENCE & ASSURANCE

### 24.0 Competency

**The purpose** is to establish modes of resources that supplement these manuals to assure competency.

**REQUIREMENTS**

1) TPG Leadership to establish and implement formalized training for TPG Employees that are trackable and conveys Safety Hazards, Controls, and Recovery Measures.
2) TPG Leadership to conduct Safety Meetings
3) TPG Leadership and Supervisors to conduct Safety Observations for all work done by TPG Employees and TPG Contractors for learning moments and constructive criticism or to acknowledge excellent safety practices
4) TPG Leadership to share learning moments
5) TPG Leadership and Supervisors to provide job site training for practical application
6) TPG Leadership and Supervisors physically review site operations for continuous improvement.
7) TPG will have an accredited technical assurance process and personnel for equipment design and selection to support new site construction assurances as well as the support of the MOC process in maintenance operations.

### 24.0 Compliance

**The purpose** is to establish a process to assess the accuracy, quality, and consistency of TPG Employees and Contractors.

## REQUIREMENTS

1) TPG Employees and Partner Contractors' employees must demonstrate
    a. TPG has an assurance process named Assist and Assure to ensure all the following is implemented and followed and uses the data to improve or adapt new processes.
    b. HSSE performance statistics satisfactory to the company and contract
    c. Procedures in TPG HSSE Standards for Personal Safety are implemented to identify risks, manage controls, and subsequent recovery measures
    d. TPG Employee and Contractor monitors for changes in the scope and the HSSE Risk of the activity, then address any such changes
    e. A process for the suitable and safe management of tools and equipment utilized
    f. An HSSE Plan, executed by the Contractor, that verifies effective implementation of HSSE Risks management of the contracted activities, including continuous improvement and gap closure.