

FOREWORD

Our Health, Safety and Environment (HSE) Commitment and Policy contains our commitment to eliminate all work related injuries and to carry out all our activities with proper regard to the environment. We believe that all injuries, occupational illnesses and accidents do not just happen; they are caused and are preventable. Elimination of injuries at work requires the positive action and co-operation from each one of us on a continuous and consistent basis. All of us must always remain alert and be determined to work safely. We must help each other to work safely and remind others when they are not working safely, thereby exposing themselves and all of us to unacceptable and unnecessary risk to injuries.

This Handbook contains a summary of HSE Rules and Regulations intended for:-

- a) New person on site as a first introduction
- b) Established KPRL and Contractors Staff, as refresher
- c) All persons on site as a quick

reference guide.

In order to keep this handbook down to pocket size, detailed procedures are not included but the fundamental requirements that apply to all of us on site have been included. Therefore, this Handbook gives a concise set of statements on HSE Rules and Regulations which everyone is expected to be familiar with and to adhere to. The detailed Procedures are available on KPRL LAN folder or from your KPRL Supervisor. This Handbook also includes guidelines for work planning and preparations, which consist of the “4

What’s” which should be used to assess and to put in place measures to avoid and protect against hazards associated with all jobs.

Please read this book thoroughly and re- read it from time to time to refresh yourself of its contents. Your ideas for improving this handbook and indeed, our HSE performance are most welcome, and you are invited to forward such ideas to your supervisor, KPRL contact or HSE Representative.

There is always time for HSE. Good HSE performance is a win win situation for everybody whereas accidents create losses for everybody. I count on you, each one of you, to uphold and improve our HSE performance.

Charles Nguyai
Chief Operating Officer.

CONTENTS

1.0 HSE COMMITMENT, POLICY AND SYSTEMS

- 1.1 Health, Safety and Environment (HSE) Commitment and Policy
- 1.2 KPRL Fire Safety Policy
- 1.3 KPRL Drugs and Alcoholic Policy and Testing
- 1.4 KPRL Smoking Policy
- 1.5 HSE Management System
 - 1.5.1 Environmental Management Standard (ISO 14001)
 - 1.5.2 Significant Environmental Aspects
- 1.6 HSE Plan
- 1.7 Regulations and Procedures
- 1.8 Legislation
 - 1.8.1 Key HSE Legislation
 - 1.8.2 Workers' Legal Obligations under OSHA, 2007
- 1.9 KPRL Cardinal Safety Rules
- 1.10 HSE Induction

2.0 HSE ORGANISATION AND COMMUNICATION

3.0 ACCESS TO THE REFINERY

- 3.1 Access Roads
- 3.2 Admission to the Refinery
- 3.3 Access to Process Areas
- 3.4 Contractors' Facilities
- 3.5 Prohibited Items

4.0 TRANSPORT ON REFINERY PREMISES

- 4.1 Traffic Rules
- 4.2 Vehicles into the Refinery
- 4.3 Cycling
- 4.4 Motor Cycle/Scooters
- 4.5 Loading/unloading of Materials and Equipment
- 4.6 Mobile Machinery and Equipment

- 4.7 Passenger Transport
- 4.8 Parking
- 4.9 Fuel, Flammable Liquids

5.0 PERMITS

- 5.1 Work Permits
- 5.2 Permission to Take Photographs
- 5.3 Long Term Permits
- 5.4 Plant Change
- 5.5 Temporary Repairs

6.0 TECHNICAL FACILITIES

- 6.1 General
- 6.2 Annual Colour Coding
- 6.3 Portable Ladders
- 6.4 Lifting/Rigging Gear
- 6.5 Cranes
- 6.6 Forklift Trucks
- 6.7 Scaffolding
- 6.8 Pressure Gas Cylinders
- 6.9 Battery Powered Equipment
- 6.10 Fire Extinguishers
- 6.11 Explosives
- 6.12 Welding Gear
- 6.13 Pressure Jetting/Grit blasting
- 6.14 Radiography (X-rays)

7.0 WORK PLACE LAYOUT

- 7.1 Safety
- 7.2 Housekeeping
- 7.3 Waste, Spillages
- 7.4 Medical waste

8.0 PERSONAL PROTECTIVE EQUIPMENT, WORK WEAR

- 8.1 Safety Helmet

- 8.2 Safety Footwear
- 8.3 Ear Protection
- 8.4 Eye Protection
- 8.5 Work Wear
- 8.6 Personal Fall Protection
- 8.7 Life Jackets
- 8.8 Other Safety Equipment
- 8.9 Use of Breathing Apparatus

9.0 AMENITIES AND HYGIENE

- 9.1 General Regulations
- 9.2 KPRL Personnel
- 9.3 Contractors

10.0 RESPONSIBLE BEHAVIOUR

- 10.1 HSE Golden Rules
- 10.2 Use of Safety Equipment
- 10.3 Reporting of Incidents
- 10.4 For Every Individual on a Daily Basis at the Front Line in the field it is Your Responsibility to:-

11.0 PROCEDURES IN THE EVENT OF ACCIDENTS

- 11.1 First Aid
- 11.2 Ambulance Calls
- 11.3 Reporting of Accidents

12.0 EMERGENCY PROCEDURES

- 12.1 Alarm Calls
- 12.2 Fire Fighting
- 12.3 Alarm Sirens
- 12.4 Action to be taken when the Refinery Emergency Alarm Sounds

13.0 H₂S ALARM PROCEDURES

- 13.1 Alarm Sound and Yellow Flash Lights
- 13.2 Fixed H₂S Emergency Procedures
- 13.3 Drainage System
- 13.4 Interceptors.

14.0 ADDITIONAL REGULATIONS FOR CONTRACTORS

- 14.1 General
- 14.2 Contact Person to the Refinery
- 14.3 Refinery Plant
- 14.4 Refinery Equipment

15.0 HSE GUIDELINES FOR WORK PLANNING & PREPARATION INCLUDING JSA

- 1.1 People
- 1.2 Work Methods & Procedures
- 1.3 Equipment and Tools
- 1.4 Worksite & Working Conditions
- 1.5 Communication & Co-ordination with other Worksite and Jobs
- 1.6 Emergency Mitigation and Recovery.

16.0 EMERGENCY CONTACT NUMBERS

1.0 HSE COMMITMENT, POLICY AND SYSTEMS

1.1 HSE COMMITMENT AND POLICY

The KPRL Health, Safety and Environment (HSE) commitment and policy is given below. The policy has been developed and agreed through the KPRL Management Health, Safety and Environment committee and is displayed prominently at various places within the refinery.

HSE COMMITMENT

In KPRL, our objective is to have an HSE performance that we can be proud of, to earn the confidence of customers, shareholders and the community, and contribute to sustainable development. Accordingly, we are committed to:

- Pursue the goal of eliminating all work related injuries and adverse health effects.
- Carry out all KPRL activities with proper regard to the environment.
- Reduce the risk to people, the environment and the assets to a level that is as low as reasonably practicable.
- Provide effective HSE management in all our activities.
- Maintain a fully competent workforce as required to carry out HSE critical activities in support of the KPRL Business and comply with all laws.
- Respect and recognize the HSE concerns of the community, our customers, employees, service providers, and to provide relevant information when required.
- Work with the Government and other bodies to develop regulations and standards, and contribute to the promotion of best HSE practices in Kenya.
- Be and be recognized as a responsible corporate citizen.

HEALTH, SAFETY AND ENVIRONMENT (HSE) POLICY

All KPRL activities will be conducted taking foremost account of the health and safety of employees, contractors, customers and

the community while paying proper regard to the environment. To this end, it is our policy:

- **That HSE matters are a line responsibility.**

Everyone on site has an HSE role. HSE matters are the responsibility of all employees and contractors, both as individuals and as team members. HSE is not the responsibility of a particular department.

- **To manage HSE to ensure compliance with Kenyan legislation or other appropriate and stricter guidelines where these are relevant, and to achieve continual performance improvement.**

We will comply with Kenyan legislation as a minimum and adopt stricter guidelines where applicable. We will apply systematic procedures and methods to manage HSE for continual improvement.

- **To rank HSE matters on equal terms with other strategic business objectives.**

HSE matters are included in the process of decision making on equal terms with profitability, product quality, and product supply decisions.

- **That our contractors apply HSE policy and standards fully compatible with our own.**

The HSE requirements are the same for all throughout the Refinery, whatever company you work with. We will select and retain only those contractors who will work with us to fulfil our HSE commitment and policy.

- **To use materials and energy efficiently in all our activities.**

We will use fuel, additives and other materials efficiently, with the aim of reducing usage and minimizing waste.

- **To minimize and prevent environmental pollution from all our activities**

We will use processes and apply techniques to avoid, reduce or control the creation, emission or discharge of pollutants or waste

to reduce adverse environmental impacts.

- **To maintain emergency preparedness capabilities which, in the event of an emergency situation, minimize any harmful effects.**

While we will take all practical measures to avoid emergency situations, we will have effective procedures in place to minimize any harmful effects should emergency incidents arise. Regular emergency drills will be done for effective emergency response preparedness.

- **To have open communication with all Stakeholders on HSE matters**

We will have open exchange of information throughout the Refinery. We will provide effective forums such as the HSE meetings to facilitate this. We should report and learn from all HSE incidents.

- **To set objectives and targets for improvement and to measure, appraise, report and reward HSE performance.**

We will, within an overall HSE plan, set objectives and targets for improvement, regularly review and report site-wide on our performance. The HSE plan will be cascaded down as departmental and individual tasks and targets and will be included in our staff and contractor performance appraisal schemes.

- **To train and motivate employees to enable them to fulfil the HSE Commitment and Policy.**

We will provide effective training and meet the competencies required and motivate our employees to always think, plan and work to meet the HSE targets and enhance HSE performance.

1.2 KPRL FIRE SAFETY POLICY

This policy is a sub-policy within the overall KPRL Health, Safety and Environment (HSE) Commitment and Policy implemented through the KPRL HSE Management System.

Purpose

The purpose of this policy is to promote fire safety, eliminate injuries to persons, prevent asset damage and environmental pollution due to fire incidents, and to comply with Kenyan fire safety regulations or other appropriate and stricter guidelines where these are relevant.

General Policy

It is KPRL's policy to protect all persons at its worksites and prevent asset damage and environmental pollution from fire hazards by ensuring:

- a. That equipment and structures are designed taking fire safety into account.
- b. That all fire detection and alarm equipment required to give warning in the event of fire is properly installed, regularly tested and maintained in good working order.
- c. That equipment for fighting fire is available at all times, regularly tested and maintained in good working order.
- d. That adequate means of evacuation in case of fire exist for all persons at its worksites.
- e. That all means of evacuation are sign posted, maintained, kept free from obstruction and available for safe and effective use at all times.
- f. That emergency response, assignment of responsibilities and roles to individual persons, notification and investigation procedures are in place and implemented in responding to a fire incident.
- g. Planning and execution of fire drills to test emergency response preparedness and act on the learning points.

- h. That appropriate fire safety training is developed and implemented to provide workers with knowledge of fire safety practices, fire extinguishing techniques and evacuation procedures.
- i. That all KPRL worksites undergo a fire safety audit annually.

Procedures

Various procedures within the KPRL HSE MS support implementation of this fire safety policy. The following procedures are key to this end:

- (i) **HSE-40-01 Emergency Procedures.** These detail response to fire emergencies including evacuation procedures, assignment of responsibility to individuals within the organization for fire emergency response, and identification of emergency assembly points.
- (ii) **HSE-00-04 Emergency Response Training**
- (iii) **HSE-20-11 Safety Equipment Checks**

1.3 KPRL DRUGS AND ALCOHOL POLICY AND TESTING

The KPRL Drugs and Alcohol policy prohibits being at work or driving company vehicles whilst impaired by drugs or alcohol. It includes the provision for searches for drugs and alcohol on company locations, submission for drugs and alcohol testing, and the disciplinary measures applicable. The company, however, recognizes drug or alcohol dependence as a treatable condition and may offer appropriate assistance for such treatment.

Testing for alcohol is in place for all throughout each day before entry to any KPRL work site.

4.4 KPRL SMOKING POLICY

Smoking is prohibited at all KPRL sites except outside the main office block towards the main car park. This is the ONLY designated smoking area at KPRL. At Port Reitz smoking is not allowed.

1.5 HSE MANAGEMENT SYSTEM

This document describes the policies, systems, procedures and work instructions in place at KPRL for managing the HSE issues to ensure that they are given equal importance to the other business objectives of the Refinery. The HSE management system is applicable to all the activities carried out at all facilities under the management of KPRL by its own and contractor employees. The HSE management system is available as an electronic copy on the KPRL LAN system or as a paper copy through your supervisor.

1.5.1 ENVIRONMENTAL MANAGEMENT STANDARD (ISO 14001)

KPRL's systems for managing the environment are certified to the ISO 14001 standard. This is an international standard for environmental management that demonstrates to our stakeholders that we are managing the environment in a systematic way to minimize and prevent environmental pollution in a manner consistent with our HSE Policy.

1.5.2 SIGNIFICANT ENVIRONMENTAL ASPECTS

An environmental aspect is an element of an organization's activities, products or services that can interact with the environment. The following are significant environmental aspects that are managed at KPRL and their associated impacts:

SIGNIFICANT ENVIRONMENTAL	ENVIRONMENTAL IMPACT
Crude Oils and Petroleum	Oil spill to water, effluent and
Hydrogen sulphide	Emissions to air,
Sulphur dioxide	Emissions to air
Smoke	Emissions to air
Fuel gas	Emissions to air
Oily sludge	Contamination/Poll
Catalysts	Toxic solid
Asbestos	Contamination/Poll
Off-grade grease	Contamination/Poll
Spent Resin	Contamination/Poll
Loud steady or high	Noise
Chemicals	Contamination/Polluti
Energy	Radiation

These significant environmental aspects are managed through Environmental Management Programmes (EMPs) that are detailed in the KPRL HSSE PLAN in order to prevent/minimize environmental pollution and ensure compliance with legislative requirements.

1.6 HSSE PLAN

To realize its HSE commitment, policy and objectives, KPRL has in place an annual HSSE plan. Every KPRL Contractor company should also have its own HSSE plan. You should familiarize yourself with the HSSE plan as appropriate to you.

1.7 REGULATIONS AND PROCEDURES

A number of HSE regulations and procedures have been developed to ensure that work is carried out without impacting on your health, safety or the environment. Therefore, all personnel at KPRL, both own and contractor employees, must adhere to the regulations and procedures. If you are not clear about any of the regulations or procedures, you must ask your supervisor before starting work.

1.8 LEGISLATION

1.8.1 Key HSE Legislation

The following are key legislation relating to HSE:

- a) Occupational Health and Safety Act
- b) Environmental Management and Co-ordination Act c) Radiation Protection Act
- d) Energy Act
- e) Tobacco Control Act
- f) HIV and AIDS Prevention and Control Act g) Standards Act
- h) Water Act
- i) Public Health Act
- j) Merchant Shipping Act k) Occupiers Liability Act

1.8.2 Workers' Legal Obligations Under OSHA, 2007

The Occupational Safety and Health Act, 2007 (or OSHA, 2007), is an Act of Parliament intended to ensure the safety, health and welfare of persons at workplaces. The following are key obligations of all workers at KPRL work sites as required by OSHA, 2007:

I am required to:

- (a) Ensure my own safety and health and that of other persons who may be affected by my acts or omissions at the workplace;**

Do I work safely?

Do I obtain a work permit when required to, and understand and follow all requirements laid out in the permit? Do I come to work fit for work? Do I use PPE as required?

- (b) co- operate with my employer or any other person to fulfill their duty as required by the Act or other applicable laws;**

Do I observe the site procedures, rules and regulations concerning HSE?

- (c) at all times wear or use any protective equipment or clothing provided by my employer for the purpose of preventing risks to my safety and health;**

Do I use the PPE provided to me as I should?

- (d) Comply with the safety and health procedures, requirements and instructions given by a person having authority over me for my own or any other person's safety;**

Do I know the HSE procedures, rules and regulations that apply to me and do I comply?

- (e) Report to my supervisor, any situation which I have reason to believe would present a hazard and which I cannot correct;**

Do I intervene to prevent accidents to myself and others by reporting potential incidents and near misses?

- (f) Report to my supervisor any accident or injury that arises in the course of or in connection with my work.**

Do I report any accidents or injuries during my work? KPRL procedures require me to do so, and so does the law!

- (g) Not to return to a work place where there is continuing imminent or serious danger to safety or health.**

Do I ensure that any hazards at my workplace have been managed to enable safe working before I resume working? There is always time for safety.

- (h) 1) not to enter any confined space unless authorized in writing by KPRL.**

2) not to perform work in a confined space unless I am sufficiently trained and informed on hazards involved in confined spaces.

As I enter any confined space, am I one of the persons that have been trained and authorized to do so by KPRL?

- (i) to undergo medical examinations for workers as required by the Act.**

Have I undertaken medical examinations for workers as required by OSHA?

- (j) not to willfully interfere with or misuse any means, appliance, convenience or other thing provided or done in the interests of safety, health and welfare;**

Do I tamper with health and safety equipment, welfare facilities, or obstruct fire fighting equipment or?

1.9 KPRL CARDINAL SAFETY RULES

The KPRL Cardinal Safety Rules are established to provide clear expectations with respect to what employees and contractors are required to do when performing certain higher risk activities. Deliberate failure to comply with KPRL Cardinal Safety Rules may result in disciplinary measure of, up to and including, termination in the case of employees, or no longer being permitted to work for KPRL in the case of contractors.

The Rules

You and I are required to:

- **Work with a valid permit when one is required.**
All work to be carried out in the Refinery's area of responsibility must be covered by a work permit. Types of permits, authorized persons, validity and permit attachments are found in the KPRL Permit to Work Procedure.
- **Properly protect yourself against a fall when working at heights.**
The required fall protection is a full body harness and lanyard with shock absorber. Safety waist belts are not allowed; lanyards without shock absorbers are not allowed except where it is used as a fall restraint (not fall arrest) system.
- **Do not walk under a suspended load.**
Never walk under suspended loads e.g. those being lifted by cranes.
- **Enter a confined space only after receiving a valid entry permit and approval of the confined space standby person. The confined space standby person shall allow entry into the confined space only with a valid entry permit.**
There must be a fire permit for Confined Space Entry and the precautions must be disseminated to all team members. Comply with all safety requirements. The standby person is not allowed to enter confined space and must not leave the place until all persons have come out of confined space or else must be replaced by another competent standby person.
- **Conduct a gas test when required by the work permit.**
Check that the required gas test has been done, recorded and signed for on the clearance before commencing work.

- **Before conducting maintenance, verify equipment has been isolated, de-energized and locked out and tagged out when required; and wear the life protecting equipment specified for the task.**
Before allowing work to commence, make sure the equipment has been positively isolated; motive power to electric or pneumatic supply must be positively disconnected and a tag to show that power has been isolated mounted. Test by actuating the switch button; wear all the PPE stated on the permit and if you are unable to fulfill the permit conditions do NOT start work.
- **Remove a lock out / tag out device only after receiving proper authorization.**
Obtain a permit to remove locks and to energize the equipment; check and make sure the permit for the work which caused the isolation has been signed off and hand-over procedure completed. Remember to replace the lock out tags should the situation require the equipment to remain de-energized.
- **Bypass critical safety equipment only after receiving proper authorization.**
Never shut off a relief valve or gag/override a safety shutdown system without written authority from the Management. Do not create unauthorized plant changes. Do not obstruct access to fire fighting /emergency equipment or fire alarm switches.
- **Smoke only in the designated smoking area.**
Smoking is not permitted past the inner gate of the Refinery at Changanwe, Port Reitz Terminal, Shimanzi Oil Terminal and offsite installations such as pits/ manifolds.

1.10 HSE INDUCTION

The purpose of the HSE induction is to ensure that all KPRL and contractor employees are familiar with basic Refinery HSE rules

and regulations prior to commencing work at the Refinery. All KPRL and contractor employees shall receive an HSE induction prior to commencing work. All contractor and KPRL employees shall receive a repeat induction if they have not worked on site for more than a year.

2.0 HSE ORGANISATION AND COMMUNICATION

There is in place an HSE organization and communication system with the objectives to:

- Stimulate open and honest communication throughout the Refinery;
- Facilitate the participation and contribution of all personnel to the effective implementation of the HSE management system;
- Facilitate the consultation process for the implementation of changes to the policies, procedures or work instructions, which have an HSE implication;
- Stimulate further improvements to KPRL HSE performance;
- Secure the commitment of all personnel in the promotion of HSE.

The HSE communication systems include:

- Tool Box Talk meetings
- Weekly HSE Standstills held every Wednesday at 10 a.m.
- Departmental and Shift HSE meetings
- The Refinery HSE Committee meetings.
- The KPRL/ Contractors HSE meetings.
- The Management HSE Committee meetings

There are HSE notice boards on site. One of them is outside the new control room. You should peruse the information displayed on the notice boards.

There are KPRL and contractor HSE representatives. Do consult your supervisor or HSE representative whenever you require HSE information.

3.0 ACCESS TO THE REFINERY

3.1 Access Roads

To prevent unauthorized persons entering Refinery premises, the area is fenced in. Normally, traffic to and from the Refinery is only allowed via the gate on Refinery Road. From time to time temporary gates may be established but may only be used as directed by Management.

3.2 Admission to the Refinery

Gate passes with logo, name, photo, department and company number are issued to all personnel employed by KPRL.

Gate passes with name, Contractor Company, ID/Passport number, issue and expiry dates are issued to contractor core-employees.

Visitors' admission passes without name or photo are issued to visitors while visiting at KPRL. When leaving the Refinery such passes shall be returned. The reception keeps a list of visitors passes issued.

During shutdowns or emergencies, special rules for admission come into force.

3.3 Access to Process Areas

The Refinery is designed to operate 24 hours a day, 7 days a week under steady conditions. During unsteady operation, as may occur at plant start-up or shutdown, the plant hazard level is greater than during normal operations. Incidents of toxic gas release may also occur in the plant. Controlled plant access is therefore in place to minimise unnecessary access to the process area and ensure that only personnel required in the plant are there, and these can be accounted for in case of an emergency.

Plant Access Control requires that all non-Operational personnel (KPRL & Contractors) seek clearance before venturing into the plant. This clearance is given by a designated Operations personnel in the form of a Plant Access pass, for Complex 1, Complex 2 or all process areas. The pass must be shown on demand while in the plant. It must be returned to Operations immediately one leaves the plant area. Access Clearance can be denied or even cancelled depending on operational activities.

There are barriers in place along the borders of the process areas. Motorized traffic may only pass through these barriers with valid Clearances.

3.4 Contractors' Facilities

Contractor personnel are only allowed to stay at their work site or where contractor's amenities are (yard, locker rooms, offices, etc) and in any other areas as may be indicated by KPRL.

3.5 Prohibited Items

The following items are prohibited from entry into the Refinery inner gates and Port Reitz Tank farm:

Matches, lighters, firearms, cameras, mobile telephones/radios and portable electric equipment.

4.0 TRANSPORT ON REFINERY PREMISES

4.1 Traffic Rules

All motorized traffic on the Refinery areas must remain on the tarmac / designated roads. The normal traffic rules apply. Always wear a seatbelt while in the moving vehicle. Be alert for signs and instructions, which must be observed. The speed limit is 20 km/hr maximum within the Refinery and Port Reitz tank-farm.

4.2 Vehicles into the Refinery

All vehicles entering the Refinery must be in a sound, safe and roadworthy condition. They must be covered by valid vehicle insurance certificate, test certificate (if applicable) and licensed if applicable e.g. for waste disposal. This will be checked by Refinery security guards at the gates.

A Fire Permit is required before any vehicle can enter a plant or restricted area.

4.3 Cycling

All bicycles entering the Refinery must be parked at the facility provided near the main gate. Company bicycles are not provided with lights and therefore not suitable for use after sunset or during heavy rainfall. Company bicycles may be ridden only on the access roads.

4.4 Motor Cycles/Scooters

Motor cycles/scooters are not allowed past the inner gates or in Port Reitz tank-farm. All riders entering company premises must wear a crash helmet.

4.5 Loading/unloading of Materials and Equipment

Loading / unloading and/or storage of materials and equipment is not allowed within a distance of 10m from any fire hydrant, alarm point or foam connection for tanks in operation, and within 2m from the Refinery fence. Unloaded items must be properly placed and not hinder traffic or be in the way of fire engines/ambulances.

In case of unloaded materials presenting a traffic hazard, they must be equipped with adequate markings, be sign posted and the area be taped off.

4.6 Mobile Machinery and Equipment

Contractors are responsible for ensuring that their mobile equipment, i.e. lorries, cranes, forklift trucks, welding machines, tractors etc. are in good, reliable and safe working condition.

They must be made available for inspection by KPRL's nominated inspector before being used. All drivers of said equipment must possess the necessary valid permits and certificates. There are checklists for safe use in place for most equipment, which must be implemented.

4.7 Passenger Transport

Use of tractors, bulldozers, cranes, forklift trucks and similar equipment for passenger transport, apart from the driver himself, is prohibited. The same applies for bicycles. It is also forbidden to carry passengers in vehicles not designed for passenger transport, including in the back of open pick-ups.

4.8 Parking

Passenger cars should normally be parked in the parking area by the office block. Cars must be parked ready-to-go. In certain cases passenger cars are allowed to drive on Refinery premises. The designated parking areas should then be used.

Cars parked within the inner fence must be left with the ignition key in the ignition, the ignition turned off, and the car unlocked. Parking within the inner fence is not allowed within 10 meters from fire hydrants, alarm points or foam connections for tanks in operation, and within 2 meters from the Refinery fence.

4.9 Fuel and Flammable Liquids

Re-fuelling of mobile equipment is prohibited near open fire, welding operations or any other source of ignition. Refueling of gasoline or diesel driven engines while the engine is running is also prohibited. Refueling is only allowed in open air. Transport and storage of fuels and other flammable liquids is only allowed in containers approved for fuel. Plastic containers should not be used to carry fuel into the Refinery. Always store fuel in the approved places and never in the process area.

5.0 PERMITS

5.1 Work Permits

All work to be carried out in the Refinery's area of responsibility must be covered by a work permit except operational work carried out by the shifts under GSS responsibility.

There are five types of work permits:

The Clearance Certificate, covering work with low elements of risk.

The Safety Certificate, covering work involving elements of risk requiring special precautions.

The Fire Permit, covering work with high element of risk (hot work, confined space, etc).

Electrical Isolation Certificate HT, for electrical isolation of high tension electrical equipment.

Electrical Isolation Certificate LT, for electrical isolation of low tension electrical equipment.

Requests for work permits can only be made by KPRL

authorized applicants. The fire permit/safety certificate is only valid for the period specified in Part 1 up to a maximum of 14 days, after which a completely new fire permit/safety certificate is required.

The *Safety Instruction Sheets* (SIS) and other attachments to the permit give essential requirements for the work covered by the permit and must be adhered to.

The work permit system is described in detail in the permit to work procedure.

5.2 Permission to Take Photographs

Photography of Refinery sites is not allowed except with the approval of a member of Management Team.

Any photography beyond the inner gate or at Port Reitz tank farm must be accompanied by a valid fire permit and the photographic equipment must be inspected and approved by MIEE before use.

5.3 Long Term Permits

In special circumstances the validity of a permit can be extended to a maximum of one year subject to Management approval (e.g. fire permits covering workshops, fire training ground or other specified areas).

5.4 Plant Change

It is forbidden to modify any part of the plant or equipment without authorization via the plant change procedure.

5.5 Temporary Repairs

Any repairs that are temporary or non-standard must be recorded as a temporary plant change and recorded with the Manager Projects Engineering.

6. TECHNICAL FACILITIES

6.1 General

Technical facilities, i.e., machines, instruments, tools, containers, etc must meet the requirements stipulated in current legislation, and consequently be equipped with all required certificates and markings. They must also meet the KPRL regulations and conditions. Such equipment must be kept in a proper condition, checks and tests being carried out and recorded as required. Checklists are in place for most equipment on site and these must be used.

6.2 Annual Colour Coding

The Manager Inspection and Integrity will advise the safety colour code for each year. This should be indicated on all lifting equipment, scaffolding material, ladders and safety harnesses each year after being inspected.

6.3 Portable Ladders

Owners of movable ladders are responsible for keeping these in a proper and safe condition. All ladders must be inspected and marked with the current colour code at 12 months interval.

- 1) Portable ladders to be used in the process areas or other hazardous areas must not be made of aluminum as they could be spark producing. Such ladders may only be used where the atmosphere is safe and not flammable.
- 2). Working on ladders is only allowed for shorter periods of light work. In case of jobs of a longer duration, scaffolds, platforms or lifts are required.
- 3). Only one person should be permitted on a ladder at any one time.

- 4). Inspect the ladder for safety defects prior to each use.
- 5). It is not allowed to carry out heavy work or work requiring two-hand operation of tools on ladders.
- 6). Single ladders, extension ladders and wheel ladders should be secured at the base or top point.
- 7). Do not use ladders in conditions of high wind velocity.
Refer to SIS on portable ladders, steps and trestles.

6.4 Lifting/Rigging Gear

Owners of lifting/rigging gear are responsible for keeping these in a proper and safe condition. All rigging gear must be inspected and marked with the current colour code at 12 months interval.

Maximum permissible load must be clearly marked on all lifting/rigging gear. Furthermore, the gear must be clearly marked with the owner's logo or company code.

6.5 Cranes

Before operating a crane

Carefully check the weight of the load and operating radius. Ensure that the ground will carry the crane plus the load. Look out for surface and overhead obstructions.

Ensure also that:

- the crane is correctly rigged for the load;
- the outriggers are correctly installed and supported;
- the radius load indicator scale is working;
- the limit switch is adjusted;
- all loose equipment is stowed;
- the tyre pressures are correct, where applicable.

Lifting of personnel by cranes is not permitted without the

use of an approved and certified man riding basket or bosun chair.

6.6 Forklift Trucks

The proper maintenance and use of forklift trucks is essential to avoid collapse, overturning or other failures. Safety can only be achieved if equipment is never overloaded, misused, improperly driven or used in a worn out or damaged condition.

Forklift trucks are not permitted in process areas without approval, for which a fire permit specifying necessary precautions for entry will be required.

6.7 Scaffolding

Scaffolding may only be erected by contractors approved by KPRL. The scaffold is only approved for use if the green "ready for use" scaffold tag card bearing an approval for 7 days is in place. Scaffolds not equipped with green ready for use cards are not to be used.

If the user finds the scaffold to be faulty, or if the scaffold tag date has expired, or if any changes have been made to the scaffold, the green card must be removed and renewed inspection and approval done by KPRL Scaffold Inspector indicated on the scaffold tag.

6.8 Pressure Cylinders

Pressure cylinders containing acetylene, argon, oxygen, etc should be stored upright and chained securely.

Pressure cylinders not in use must be removed from tank farms and process units.

All pressure cylinders should be equipped with protective caps during transport and must be adequately secured to

prevent movement. Pressure cylinders must be secured when transported on a flat bed trailer and lashed at least four inches below the sides of a lorry with side panels.

Exceptions to the above requirement are fire extinguishers, air cylinders for respirators or large process cylinders for hydrogen or nitrogen.

Care should be taken not to grease the valve on oxygen cylinders.

Oxyacetylene pressure cylinders must not be taken into enclosed places. Isolating valve keys must be left in place while oxyacetylene cylinders are in use.

6.9 Battery Powered Equipment

- 1). Devices powered by mini batteries, e.g., wrist watches and hearing aids, can be used everywhere without restrictions.
- 2). Devices powered by ordinary dry cell batteries can be used according to the following rules:
 - a). Explosion-proof and clearly Ex-marked equipment e.g. torches and gas testers can be used everywhere without restrictions. On floating roofs, however, only equipment marked with Ex approval is accepted.
 - b). Other devices not explosion proof and not Ex marked must be covered by fire permit.
- 3). In the process area, battery powered drilling machines, regardless of Ex-approval, are only allowed when covered by a fire permit.
- 4). Change of batteries, charging and opening of equipment regardless of Ex-approval is only allowed in safe areas (outside the process and oil movements areas).

6.10 Fire Extinguishers

The fire extinguishers located at the marked fire points are for emergency use only.

It is the responsibility of all contractors to supply their own fire and safety equipment including fire extinguishers to cover any planned work.

6.11 Explosives

Firearms and ammunition for firearms, fireworks and other appliances designed to generate explosions or open fire are not allowed on Refinery premises unless under special circumstances under Management approval.

6.12 Welding Gear

All welding, burning or other hot work must be covered by a Fire Permit.

The use of welding and burning apparatus within the Workshop area will be covered by a Fire Permit, and in special circumstances Fire Permits for extended periods may be issued to cover areas carefully selected for welding and other hot work on large construction and maintenance projects.

6.13 Pressure Jetting/Grit blasting

Suitable warning notices indicating that HIGH PRESSURE WATER JETTING or GRIT BLASTING is in progress shall be displayed clearly around the work area. Workers shall wear appropriate PPE that shall be specified in the work permits. Grit blasting of floating roof tanks shall only proceed after the earth bond between the floating roof and tank shell has been inspected and found to be in good order. The machines must be fitted with safety shutdown devices (dead man's handle).

6.14 Radiography (X-Rays)

Before the start of any work with ionizing radiation, the areas involved shall be designated, controlled and supervised as appropriate. The areas shall be surrounded by substantial barriers and marked with radiography safety signs at all access points, giving warning of ionizing radiation and restricting entry to classified personnel only. All precautions stated in the radiography work permit must be in place before the work commences.

7.0 WORK PLACE LAYOUT

7.1 Safety

All work places should be laid out safely. When planning any job, consideration must be given to siting of equipment, materials and removal of waste.

7.2 Housekeeping

The work place must always be kept clean and tidy.

Stored materials, trenches and other level differences presenting a potential risk to human and vehicular traffic in the area shall be clearly sign posted and taped off.

7.3 Waste, Spillages

Any spillage should be contained and then collected. The risk of spillage when opening flanges especially at high level should be considered.

All waste material generated must not be mixed indiscriminately but must be segregated and disposed of in the appropriate manner. Dedicated bins marked for specific waste e.g. metallic waste, electrical waste and general waste are available site wide. Separate work instructions and precautions apply to disposal of hazardous waste.

There is a waste disposal permit system in place for disposal of hydrocarbon sludge at the Shamba.

7.4 Medical Waste

Medical waste shall be segregated and properly disposed off. Contact the Occupational Health Nurse.

8.0 PERSONAL PROTECTIVE EQUIPMENT (PPE) AND WORK WEAR

8.1 Safety Helmet

The wearing of safety helmets is mandatory inside KPRL's inner gates, Port Reitz tank farm, KOT and SOT areas. Exception to this rule is on Road 1A, Road 10 and inside offices and mess rooms. Safety helmets should not be cracked and must not be painted or drilled or have stickers attached.

8.2 Safety Footwear

Approved safety footwear, with steel toe caps, must be worn inside KPRL's inner gates, Port Reitz tank farm, KOT and SOT areas. Exception to this rule is on Road 1A, Road 10 or inside offices and mess rooms.

8.3 Ear Protection

Ear protection is mandatory at the Process areas and wherever signs indicate it. Ear protection must also be worn at work that generates hazardous noise, as specified on the work permit. Ear protection shall be either approved ear muffs, which are preferred or approved ear plugs.

8.4 Eye Protection

Basic eye protection is mandatory at all Refinery premises and work sites, except in control rooms, offices, dispensary,

on Road 10, Road 1A and excluded areas in the laboratory and workshop.

Appropriate additional protection must be worn for hazardous work that may cause damage to the eyes, e.g. welding, grinding, drilling, handling hazardous chemicals, etc.

8.5 Work Wear

Personnel working in or around the Refinery and or Port Reitz tank farm, KOT and SOT must wear acceptable standard two piece overalls, or trousers and long sleeved jacket. One piece overalls shall be obtained and worn as special PPE for jobs such as confined space work upon approval by your supervisor.

No person will be permitted in the Process areas in shorts, skirts or without a long sleeved jacket. There are certain areas of the Refinery that require special protective work wear to be worn. These areas have the work wear available for use by those people directly involved in either the operation or maintenance of the unit. Special protective work wear will also be specified on the permit.

8.6 Personal Fall Protection.

A fall protection system with continuous attachment shall be used by personnel in work areas not protected by guardrails where there is a danger of the employees falling from a distance of 2 meters or greater. This includes falls to lower levels such as excavations, holes or pits.

The required personal fall protection is Full Body Harness and Lanyard with Shock Absorbers. Safety waist belts are not allowed. Lanyards without shock absorbers are NOT allowed

8.7 Life Jackets

Life jackets must be worn before access to the KOT and SOT Jetties.

8.8 Other Safety Equipment

Additional special requirements for PPE will be indicated on the work permit, chemicals' material safety data sheets (MSDS) or special operating instructions.

8.9 Use of Breathing Apparatus

All KPRL and Contractor employees who may be required to use Self Contained Breathing Apparatus or the air line mask be trained and authorized as users of breathing apparatus (BA).

9.0 AMENITIES AND HYGIENE

9.1 General Regulations

All personnel must have access to washrooms, mess rooms, and changing room. Certain types of work, e.g. asbestos and epoxy work require special bathing and changing facilities.

Work involving handling of epoxies requires thorough hand washing before going to the toilet. Working on sewers and asbestos requires decontamination and showering prior to touching any food.

All meals must be eaten in the assigned mess rooms. Always use the assigned washrooms. It is not allowed to relieve oneself in the grass or other areas. Although explicit requirements for sanitary measures are only laid down for some types of work, all personnel are expected to keep a high standard of personal hygiene both in the washrooms and mess rooms, and also when your work is done.

The amenities shall be properly maintained and regularly cleaned.

9.2 KPRL Personnel

Amenities for KPRL personnel are in the canteen building, the office building, the workshops and the control room building.

9.3 Contractors

Amenities for contractors are normally in the contractor's yard.

Contractors working in the Refinery workshops or office buildings may be allowed to use the amenities there.

10.0 RESPONSIBLE BEHAVIOUR

10.1 HSE Golden Rules

Working and acting safely is not complicated and there is a very simple, clear and meaningful approach to doing so. This approach is set out below as the **HSE Golden Rules**:

- We comply with the law, standards and procedures.
We all need to know, understand and adhere to the laws, standards and procedures that apply where we work. We also need to recognize the reasons why people sometimes fail to follow rules and exercise leadership to correct this.
- We **intervene** in unsafe or non-compliant situations. If we see a situation where a rule is not being followed, or the level of safety is not as required, it is our responsibility and duty to intervene immediately. Unsafe work must be stopped immediately and the ASI who signed the permit informed.
- We **respect** our neighbors. If we do our job correctly and listen to others, we will earn greater trust from the communities surrounding our plants and operations.

10.2 Use of Safety Equipment

The safety equipment provided is for the protection of all. It is forbidden to use safety equipment other than for its intended purpose. The use of equipment that needs to be replaced or refilled/recharged must be reported immediately.

Vandalism, unauthorized removal or misuse of safety equipment is strictly forbidden and amounts to gross misconduct. It is also prohibited to tamper with or modify safety equipment in any way without appropriate approval.

10.3 Reporting of Incidents and Near Misses

An **incident** is an unplanned event or chain of events that has, or could have resulted in injury or illness or damage to assets, the environment or company reputation. Examples are a fire in the work area, an injury, a vehicle accident, an oil spill to sea.

A near **miss is an incident** that could have caused illness, injury or damage to assets, the environment or company reputation but did not.

An example is a worker slipping off a ladder/ staircase but not getting injured.

All incidents and near misses must be reported to the FSA so that they can be investigated and learning points implemented to prevent a recurrence. Forms are available to facilitate reporting. Incidents may also be reported electronically using the Incidents Database on LAN. An incentive scheme is in place to encourage reporting of near misses for learning points.

10.4 FOR EVERY INDIVIDUAL AND ON A DAILY BASIS IT IS YOUR RESPONSIBILITY TO:

- Always follow the HSE procedures and requirements

applicable to the task at hand. Follow the rules yourself. Support all HSE measures and require your work team members to do the same.

- Brief your work team members whenever you encounter an unusual HSE requirement on a job. Deter another person from performing an unsafe act; do not leave it for someone else to do so.
- Ensure when you see a hazard that you make it safe immediately if it does not compromise your own safety, then report it. Contact your supervisor or the GSS whenever you see any potential hazard in that area.
- Help your team members, especially new ones, if they need HSE information. Watch out and protect new team members or persons new on site.
- Check every tool to ensure it is in safe condition before you use it. Reject any faulty equipment even if it may mean a delay on the job.
- Justify to any doubting person why particular HSE procedures are required. Question why jobs are done in particular ways; you may be able to suggest a safer way.
- Listen carefully when new HSE procedures are being explained. Prepare properly for any new job and ask questions if you are not sure.
- Never allow shortcuts which jeopardize your own and team's safety.
- Open your eyes to your surrounding.

11.0 PROCEDURES IN THE EVENT OF ACCIDENTS

11.1 First Aid

First aid equipment is available in the form of emergency showers, emergency eye wash basins and baths. Always make a note of the location and operation of such equipment in your work area. You may want to check for yourself that it is operational.

In the event of burns or caustic or acid injuries it is vital for the injured person to be washed immediately in an emergency shower or to be placed in an emergency wash basin or bath and remain there until medical assistance arrives.

11.2 Ambulance Calls

If an injured person must be taken to hospital for treatment call the control room (Ext 300) and request for an ambulance. Give the name of the injured, the location and nature of the accident. The control room will immediately inform the GSS who in turn will organize the necessary assistance.

11.3 Reporting of Accidents

All accidents either with or without personal injury shall be reported to the supervisor in-charge immediately, and to FSA, HSEA and MM. The KPRL incident report form must be completed and forwarded to FSA at the earliest opportunity. Furthermore, all near-misses shall be reported.

12.0 EMERGENCY PROCEDURES

12.1 Alarm Calls

On detecting a fire, hydrocarbon leak, a serious injury or any emergency, proceed to the nearest fire alarm point and activate it or report by the quickest method (either by radio, telephone, or in person) to the control room (emergency telephone ext. 300) giving your name, location and source/nature of emergency. The person receiving the message in the control room will immediately contact the GSS on radio or in person. The GSS will always carry a radio and a mobile telephone. The KPRL emergency procedures give the detailed procedures.

The KPRL emergency procedures are available as an electronic copy on the KPRL LAN, procedures folder, or as a paper copy through your supervisor.

12.2 Fire Fighting

Nobody should try to fight a fire they are not trained. KPRL has a trained fire fighting team available throughout each day. This is the First Intervention Team (FIT).

12.3 Alarm Sirens

At the Refinery, the fire/emergency alarm is raised by a sounding siren. A weekly test of 1 minute-duration of the siren is performed every Wednesday at 07.45 hours.

At the Port Reitz tank-farm, the fire /emergency alarm is raised by sounding the outdoor constant tone siren. A weekly test of 1 minute duration is performed every Wednesday at 07.45 hours and recorded.

12.4 ACTION TO BE TAKEN WHEN THE REFINERY EMERGENCY ALARM SOUNDS

The purpose of this procedure is to define what action shall be taken by KPRL, Contractor personnel and visitors to the Refinery in the event of a major emergency.

The emergency evacuation procedure of non operating personnel from the Refinery Process and Oil Movements areas at Changamwe in the event of a major incident is given in section (A) below.

The emergency evacuation procedure of personnel from the main office building, the workshop, the Warehouse, the training center and Inspection offices in the event of a major incident is given in section (B) below.

The emergency evacuation procedure of personnel from the Canteen and Dispensary areas in the event of a major incident is given in section (C) below.

The emergency evacuation procedure of personnel from the Port Reitz tank-farm in the event of a major incident is given in section (E) below.

The procedure applies to all persons within the KPRL sites, be they KPRL employees, contractor employees or visitors to the Refinery. All personnel working within the Refinery or visiting the Refinery should be aware of the evacuation procedure and their role, if any, in the procedure.

(A) Evacuation procedure in the event of a major emergency within the Refinery Process and Oil Movement areas at Changamwe

In the event of a major incident within the Refinery a monotone siren will sound which will continue for full three minutes.

On hearing the emergency alarm all non-operations personnel working within the Process and Oil Movements areas will stop work, switch off all running equipment, ensure that the person working next to him

/her has heard the alarm, leave site and walking across the wind make his/her way to the nearest Emergency Assembly Point, i.e. main assembly point adjacent to the main gate at the car park, or alternate assembly point at gate No. 10 towards KPC input tank farm.

A roll call will be carried out by the Senior Fire Warden at the main assembly point, ensuring all personnel are accounted for, including those at gate No. 10. Any person not accounted for will be the subject of a search and rescue organized by a senior member of KPRL.

Personnel will not leave the Emergency Assembly points until a senior member of KPRL instructs them to do so.

When the emergency incident has subsided the Refinery monotone siren will be sounded for a full one 1 minute to signal all clear.

(B) Evacuation procedure in the event of a major emergency at main office building, Workshops, Warehouse, Laboratory building, Training Centre and Inspection office areas

(i) Fire / Emergency alarms

Fire / emergency alarms are located in the entrance lobby to the main office and consist of:

(a) Glass protected fire alarm button which sound the main Refinery fire siren to summon fire crews.

(b) Electric switch which rings the main office building, Workshops and Warehouse fire hooter, and is the signal to vacate these buildings, including the Laboratory building.

Manually operated alarm bell will be used if there is no electricity. When the main Refinery fire/emergency alarm siren sounds, people in the main offices, Workshops, Warehouse, Laboratory building, Training Centre and inspection Offices should remain alert but continue with their normal duties and must not go rushing off to look or even offer assistance at the scene of the emergency. If it is considered necessary to vacate the offices, Workshops, Warehouse, Laboratory building, Training Centre and Inspection Offices, then the emergency evacuation hooter will be sounded by the security guard.

(ii) On discovering fire

(a) Raise the alarm by shouting "Fire! Fire!" or using the alarm call point nearest to you and attempt to extinguish the fire with the equipment available if you are trained and it is safe to do so;

(b) Detail someone to remain in the lobby to direct the fire crew to the scene of the fire.

(iii) When the alarm hooter sounds take the following actions:-

- Terminate any telephone conversation ;
- Switch off any electrical equipment you may have been using;
- Leave the building quickly in an orderly manner using, if necessary, the emergency exits as directed by the fire warden.
- Walk, do not run, and proceed to the emergency assembly point adjacent to the main gate at the car park.

Exits at the Ground Floor of the main office block:-

Door number 116 near IT Manager's office towards the car park.

Door number 213 near entrance to computer room.

Exits at the First Floor of the main office block:-

Large window on the staircase.

Door number 318 near the Scheduler's office, at the eastern end of the corridor.

Exit- CEO's wing.

Emergency Exit at the CEO's office.

- **REMAIN AT THE EMERGENCY ASSEMBLY AREA UNTIL GIVEN FURTHER INSTRUCTIONS BY THE SENIOR FIRE WARDEN PRESENT.**

Do not leave the Refinery nor walk about the Refinery area. Do not return to your office without permission.

(C) Evacuation procedure in the event of a major emergency at Canteen and Dispensary.

(i) Emergency alarms

To evacuate the Canteen and Dispensary buildings, an alarm bell will sound. Alarm buttons are located in the canteen foyer and the dispensary reception.

To raise the alarm use the nearest alarm button located in the main office reception and call emergency telephone (ext 300).

When the Refinery emergency alarm siren sounds, people in the canteen and the dispensary should remain alert but continue with their duties and must not go rushing off to look or even offer assistance at the scene of the emergency. If it is considered necessary to vacate the canteen and dispensary, the alarm bell will be sounded.

(ii) Actions on discovering a fire

Should you discover a fire at the Canteen or Dispensary, raise the alarm by shouting "Fire! Fire!", and attempt to extinguish the fire if trained and it is safe to do so.

If the fire is large and shows signs of getting out of control, sound the evacuation alarm bell then proceed to main office to sound the Refinery fire siren and instruct the guard at the reception to summon the fire crew. Return to continue the fire fighting if it is safe to do so.

(iii) When the alarm bell rings, persons in the Canteen and Dispensary must take the following precautions

- Terminate any telephone conversations they may be having.
- Switch off the any electrical appliances.
- Leave the building quickly in an orderly manner. The Canteen emergency exit is at the western side facing the main interceptor.

- Walk, do not run, and proceed to the Emergency Assembly Point adjacent to the main gate at the car park.
- Remain at the Emergency Assembly Point until given further instructions. Do not leave the Refinery area and do not return to the building until you are given permission to do so by the senior fire warden.

(D) Visitors

In the event of an emergency whilst visitors are in the Refinery, the KPRL host will be responsible for the safe conduct of the persons to the nearest emergency assembly point.

(E) Evacuation from Port Reitz Tank farm

At Port Reitz tank farm, the emergency alarm is raised by sounding the outdoor constant tone siren. The weekly test of one minute duration is performed every Wednesday at 07.45 hours.

On hearing the alarm, all non-operations personnel will stop work, switch off all the equipment they may be using, ensure the person working next to them has heard the siren and make their way to the Emergency Assembly point outside the control room. All personnel must stay at the Emergency Assembly point until directed by a senior member of KPRL that it is safe to go back to work.

13.0 H S ALARM PROCEDURES

13.1 Alarm Sound and Yellow Flash Lights

In several of the units of the process area are found substantial volumes of H S (hydrogen sulphide), a toxic gas with a foul odour.

Note that at high concentrations, H S odour is not detectable to human senses.

THEREFORE DO NOT

RELY ON H S ODOUR TO INDICATE ITS PRESENCE. To a certain extent piping systems containing H S are painted yellow. However, there is no guarantee that pipes which are not yellow do not contain H S. In case of H S leaks, there are sensors which activate an audible alarm and yellow flashing light. As long as the sensors register H S the yellow flashing light will be on and a constant tone alarm will sound.

13.2 H₂S Emergency Procedures

In the event of H₂S alarm, or if you smell H₂S, leave the area up wind at once. If there are other persons in the area who have not escaped, their rescue should be left to persons wearing breathing apparatus. Do not attempt to enter the area without breathing apparatus - you could be the next victim.

Do not enter an area where the alarm is on constant tone and/or yellow flash.

The detailed H₂S emergency procedures are given in the KPRL Emergency Procedures as a Pre-Incident Plan (PIP).

13.3 Drainage System

Whenever work has to be carried out inside drains, a **self contained breathing apparatus (SCBA) must be worn.** Drains will be de-flooded first and there **shall not be any draining of gas or liquid** into the system until the work is completed or suspended.

13.4 Interceptors

All interceptors shall be kept clean and oil free at all times. Slops will be pumped each shift to slops / crude

tank. Unauthorized persons are not allowed into the interceptors.

14.0 ADDITIONAL REGULATIONS FOR CONTRACTORS

14.1 General

It is the responsibility of the Contractor Company to make its staff familiar with and to observe the regulations as provided by the OSHA Act of 2007, and its regulations, and also the additional /special regulations in force at the Refinery. One implication of this is that the Contractor is to give the necessary training and instructions to his staff on the regulations.

14.2 Contact Person to the Refinery

The Contractor is responsible for appointing a person, normally the site supervisor, foreman and/or HSE representative, as a contact person to KPRL's supervisor on HSE issues. All queries on day to day HSE issues are to be routed through the KPRL supervisor in charge.

14.3 Refinery Plant

No persons other than KPRL personnel are allowed to operate any part of the Refinery plant and equipment such as valves, pumps, etc.

All traffic on Refinery premises must display the utmost care to avoid damage to plant or equipment. Attention is particularly drawn to the fact that stepping on insulated pipes is prohibited. Any damage to insulation must be reported to KPRL's supervisor at once.

14.4 Refinery Equipment

Unless otherwise stated, the contractors are to provide the materials necessary for the performance of their

work, including safety equipment and personal protective equipment. Therefore, the contractors are not allowed to use Refinery equipment, unless a special agreement has been made. The equipment mounted for use in emergency at various work sites is, of course, exception to this rule.

15.0 HSE GUIDELINES FOR WORK PLANNING & PREPARATION INCLUDING JSA

Every job at KPRL must be done with prior planning and preparation. An essential part of this is a thorough assessment of the job and putting in place measures to avoid and protect against the hazards. Every person responsible for the job should consider the following **“4 whats”, the “macho nne”, before starting:**

1. What can go wrong?
2. What can cause it to go wrong?
3. What can be done to prevent it going wrong?
4. What can be done to minimize the negative consequences if it does go wrong?

The “macho nne” should be applied to:

- People
- Work Methods & Procedures
- Equipment & Tools
- Work site/Working conditions
- Communication & Co-ordination with other Worksites and
Jobs.
- Emergency Mitigation and Recovery Measures.

The above are given as a guideline and there will be other areas/situations which should be taken into account. Further guidelines are given below.

15.1 PEOPLE

- Do they have the correct PPE?

- Do they have relevant information about the job and procedures?
- Do they have the skills, competence and experience for the job?
- Are there measures in place to prevent people from taking short cuts?
- Is the job adequately manned?
- Is everyone fit for work (for example, does anyone appear to be under the influence of alcohol or drugs, exhausted or sick?).
- Will the right level and ratio (1:8) of supervision be in place throughout?
- Are there any new staff? Have they been trained for the job?
- Is the ratio of new to experienced staff at least 1:4?

15.2 WORK METHODS & PROCEDURES

- What are the work methods and procedures required for the job?
- Are there new work methods and procedures required? If so, are they in place?
- Are there any parts or aspects of the job for which special/ modified procedures and or precautions are required? Have these been discussed?
- Is there any lifting to be done? Will any lifting equipment be used? Will there be any manual lifting? Is the load to be lifted manually not more than 25 kg? Are the workers familiar with good manual lifting technique?
- Will transportation of equipment and material be required? Are the objects lashed and secured properly, not protruding from the carrier and not over-loaded?
- Is a detailed job safety analysis (JSA) required? If so, is this in place?
- Have the above work methods, procedures, precautions and JSA requirements been disseminated and cascaded down to the people?

15.3 EQUIPMENT AND TOOLS

- What are the equipment and tools required for the job?
- Are the equipment and tools suitable and in good condition?
- Are the required equipment and tools checklists in place?
- Are there any electrical equipment and tools? What are the precautions? Are non-sparking tools required?
- Are there any air/steam driven equipment and tools? What are the precautions?
- Is the equipment to be worked on depressured? Is it gas free?
- Is the equipment to be worked on isolated electrically?
- Is the equipment to be worked on isolated from the process?
- Are all moving parts guarded?
- Are the equipment and tools safeguarded against
“accidental” commissioning?

15.4 WORKSITE & WORKING CONDITIONS

- Is the access to the worksite suitable?
- What are the escape routes?
- Is the worksite confined?
- Is there adequate space to accommodate the required workers for the job? How many workers are there? How much working space is there?
- Is the ventilation adequate?
- Are there required sitting facilities?
- Is it dusty
- Is a wind sock required?
- Is the lighting adequate?
- Is it too hot and humid for the job?
- Is there exposure to hazardous substances?
- Is there a risk of sudden and or unexpected release of hazardous substances?
- Are there situations involving heights and / or below ground level?
- Will scaffolding be required? Is the required scaffold for

workers only or materials as well?

- Will there be lifting?
- Are there any excavations?
- Are the hours of work okay? Are there long and or irregular hours?
- Is the house keeping good? Is the floor slippery? Are there any sharp edges? Are there any objects, which can fall?
- What are the measures to avoid, protect or recover (in an emergency) from hazards? Are these in place?

15.5 COMMUNICATION & CO-ORDINATION WITH OTHER WORKSITES AND JOBS

- Are there any new workers? Are any workers returning after a period of absence? Have they been briefed?
- Has there been adequate handover of the job status from the previous day, shift or team?
- Are there more than one contractor or work team on a site?
- How do other jobs/sites affect this job/worksites? How does this job/site affect others?
- Does the job have phase in with another job?
- What is the communication between the jobs/worksites?
Who are the contact focal points? Are radios required? Are meetings required? How often?

15.6 EMERGENCY MITIGATION AND RECOVERY

- What are the measures to protect, mitigate and recover in an emergency from the hazards?
- Are the above measures in place?
- Have the above measures been disseminated to the workers?

WE EACH HAVE A RESPONSIBILITY TO ENSURE OUR OWN SAFETY AS WELL AS SAFETY OF PERSONS AROUND US. SAFETY IS A TEAM EFFORT AND TOGETHER WE WILL WIN.

16.0 EMERGENCY CONTACT NUMBERS

NOTE: The full Emergency Contact List is available in the Emergency Procedure HSE-40-01

INTERNAL NUMBERS

Emergency	300
Fire Station	278 / 283
Control	217 / 214
Main Gate	297
Guard	202 / 207
Dispensary	250
Movement	256 / 267
GSS	0753 539
MPO	0717 968
MM	0719 867

EXTERNAL NUMBERS

Dial 9 for accessing external line then followed by the dialing numbers

DOCTORS

Mombasa Hospital (Outpatient)
2312099, 2312191 / 2, 2228710 / 1 / 2

Mombasa Medical Practice
2222857 / 8, 0733 636 803

HOSPITALS

Mombasa Hospital 2312190 /191, 2312099 / 2228710
Pandya Memorial Hospital 2314140/1
Aga Khan Hospital 2227710, 2312953 / 4
Coast General Hospital 2314201 / 4 / 5 / 6, 2222148
Bomu Medical Centre 0722 574755 / 020 2352555

ST.JOHN AMBULANCE 2490625, 2492848,
0733 846 483, 0722 814 140

OIL SPILL RESPONSE

OSMAG Technical Coordinator 2495762 (office)
3432184 (Residence)
0722 832661 (Cell Phone)

FIRE BRIGADES

County Fire Brigade 999, 2225555
Kenya Port Fire Brigade (041) 2433293 0720 202424
Changamwe Fire Brigade 2225320
Moi Airport Fire Service 343321- 8, 2434023/8

POLICE STATIONS

General Line 999
Central Police 2225501 / 2 0733613 999
Changamwe Police 3433700 0733575999
Nyali Police 471555 0733824999
Makupa Police 2491604 0733615999

MOMBASA COUNTY

District Commissioner Changamwe 020 2394618
0720 399620
0733 419652