

STATUTORY INSTRUMENTS SUPPLEMENT

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S T A T U T O R Y I N S T R U M E N T S

2016 No. 35.

THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND
MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT)
REGULATIONS, 2016.

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STATUTORY INSTRUMENTS

2016 No. 35.

The Petroleum (Refining, Conversion, Transmission And Midstream Storage) (Health, Safety And Environment) Regulations, 2016.

(Under sections 63 and 95 of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act 2013, Act 4 of 2013).

IN EXERCISE of the powers conferred upon the Minister responsible for petroleum activities by section 95 of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act 2013, and in consultation with the Authority, these Regulations are made this 6th day of May, 2016.

PART I—PRELIMINARY

1. Title.

These Regulations may be cited as the Petroleum (Refining, Conversion, Transmission and Midstream Storage) (Health, Safety and Environment) Regulations, 2016.

2. Interpretation.

In these Regulations, unless the context otherwise requires—

“Act” means the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013;

“Authority” means the Petroleum Authority of Uganda established under the Petroleum (Exploration, Development and Production) Act, 2013;

“accidents” means occurrences which result in harm to human health or damage to equipment, property or the environment;

“authorised officer” means an officer or other person acting under the authority of the Minister or the Authority under the Act and these Regulations;

“best petroleum industry practices” means the use of what is accepted to be the best available practices that are generally accepted as good, safe, transparent and efficient in carrying out midstream operations and that can be applied globally under similar circumstances;

“competent person” in respect of a specified duty, means a person who, because of his or her knowledge, training and experience, is qualified to perform that duty safely and properly;

“confined space” includes any chamber, room, vat, pit, pipe, flue, tank, drain, sower, still, tower or other space where there may be a concentration of dangerous fumes, toxic materials or substances, harmful liquids or lack of oxygen that causes or is likely to cause danger to any person;

“currency point” has the value assigned to it in the Act;

“dimensioning fire” means a fire which, in accordance with the acceptance criteria defined under these Regulations, represents a risk; and which consequently serves as a basis for design and operation of installations and facilities;

“employee” means a person employed by the licensee, contractor or subcontractor while carrying out midstream operations on behalf of the licensee;

“fire division” means a distance or division made of incombustible materials to minimise the probability of a fire spreading horizontally or vertically;

“hazardous material and substance” means—

- (a) toxic, corrosive, explosive, oxidizing, flammable, harmful or irritant solid, liquid or gases, which when, inhaled, ingested or come into contact with human skin, causes or are likely to cause harm or damage;

- (b) a substance which due to its physical-chemical or chemical properties and use creates a risk to human health and the environment; and
- (c) any dust, whether in form of solid particles or fibrous materials or other material is capable of forming an explosive mixture in air or an explosive atmosphere;

“Hazard Operability (HAZOP) study” means a structured and systematic examination of a planned or existing process or operation in order to identify and evaluate problems that may represent risks to personnel or equipment or prevent efficient operation;

“Hazard Identification (HAZID) study” means a systematic assessment to identify hazards and problem areas associated with plant system, operation, design and maintenance;

“hot work” means any process that can be a source of ignition when flammable material is present or can be a fire hazard regardless of the presence of flammable materials within the area including riveting, welding, cutting, grinding;

“incident” means any occurrence which has the potential to cause harm to a person or damage equipment, property or the environment and includes accidents;

“Inspector” means a person appointed as an inspector under the Occupational Health and Safety Act, 2006;

“licence” means a licence issued under the Act;

“licensee” means a person to whom a licence is granted under the Act;

“lifting appliance” means a composite unit used for hoisting and lowering loads, with or without horizontal movement;

“lifting gear” means components or equipment used between the lifting appliance and the load or to grip the load, and which are not an integrated part of the lifting appliance;

- “main area” means area or building block on the facility that contains identical or similar functions;
- “major accident” means an occurrence such as a major emission, fire or explosion resulting from uncontrolled developments in the course of the operation of any facility or during a midstream operation, leading to danger to human health or the environment, whether immediate or delayed, inside or outside the facility, and involving one or more dangerous substances;
- “permanently manned facilities” means a facility that is manned 24 hours a day, every day, continuously, or which are incorporated as a part of an integrated development concept with bridge connections;
- “person-in-charge” means person appointed by the licensee in accordance with these Regulations to be in charge of a specified midstream operation;
- “pipeline systems” means pipelines and risers that transmit petroleum commodities or petroleum products and other fluids with associated safety systems, valves, chambers, corrosion protection systems;
- “safety functions” means physical measures that reduce the probability of an incident, hazard and accident situation occurring or that limit the consequences of the incident, hazard or accident;
- “safety system” means a system that realizes one or more active safety functions;
- “standards” means standards, specifications and codes of practice which apply to the operation, use, construction, decommissioning and disposal of facilities required for the purpose of carrying out midstream operations including standards for emissions, company standards, compulsory standard specifications, international standards or national standards issued under the National Bureau of Standards Act;

“working environment” when pertaining to a place of employment, means the physical geographical location and the immediate surroundings where any midstream operation of the licensee is being carried out, whether permanent or temporary.

3. Responsibility of licensee.

(1) The licensee and other parties participating in midstream operations in Uganda are responsible for operating in accordance with the Act, these Regulations and any other applicable law.

(2) The licensee shall ensure that a person carrying out work for him or her, either personally or as an employee, contractor or sub-contractor complies with the Act, these Regulations and any other applicable law and administrative decisions issued under the Act.

PART II—GENERAL HEALTH, SAFETY AND WORKING ENVIRONMENT REQUIREMENTS

4. General duties of licensee.

(1) The licensee shall take necessary measures—

- (a) to prevent incidents, accidents and hazards and limit their consequences to human health and the environment;
- (b) to prevent and reduce the number of accidents among employees that are likely to result into loss of time for work, disability or fatality to the employees;
- (c) to ensure that occupational safety and health in all midstream operations is satisfactory for the health and safety of employees and the environment;
- (d) to ensure that the economic value which the facilities and vessels represent include operational availability;
- (e) to ensure that the level of safety and health is at all times concurrent with the technological development; and
- (f) to comply with requirements under the Occupational Safety and Health Act, 2006.

(2) The licensee shall demonstrate to the Authority that it has taken all measures necessary as specified under these Regulations, standards approved by the Authority and best petroleum industry practices.

(3) The licensee shall provide the Authority assistance necessary to enable the Authority to perform its functions under these Regulations including inspections, investigations and gathering information in connection with the performance of its functions under the Act and these Regulations.

5. General requirements relating to process safety.

(1) The licensee shall define safety objectives applicable to the implementation of midstream operations in a facility.

(2) The licensee shall ensure that process and auxiliary facilities are free from failure during operation that is likely to lead to hazardous situations, incidents or accidents.

(3) Subregulation (2) applies to operational errors and equipment failure.

6. Management of health, safety and environment.

The licensee shall comply with requirements of the Occupational Safety and Health Act, 2006 and in addition ensure that—

- (a) the management of health, safety and the environment comprises the operations, resources, processes and organisation necessary to ensure prudent operations and continuous improvement;
- (b) responsibility and authority during each operation is clearly defined and coordinated at all times;
- (c) the necessary governing documents are prepared and the necessary reporting lines are established and clearly communicated to the employees and any other person who has access to the facilities or participates in a midstream operation; and

(d) best petroleum industry practices are taken into consideration.

7. Safety factors during construction.

(1) The licensee shall ensure that—

- (a) all offices, warehouses and process buildings within a facility are constructed in accordance with standards approved by the Authority and best petroleum industry practices;
- (b) laboratory building construction takes into consideration the safety of employees and provision of adequate ventilation and measures for proper disposal of waste;
- (c) Material Safety Data Sheets are prepared in respect of all potentially hazardous chemicals and materials;
- (d) emergency alarm system and evacuation programs within the facility conform to standards approved by the Authority and best petroleum industry practices;
- (e) the noise levels in the work area of a facility or during a midstream operation do not exceed the level prescribed under National Environment (Noise Standards and Control) Regulations, 2003 and where the noise and vibrations level is to be exceeded, wearing of personal protective equipment by employees is mandatory;
- (f) the flare stacks are located at a distance of at least sixty metres from the other process units or storage tanks and the flare conform to standards approved by the Authority and best petroleum industry practices;
- (g) the automatic control system for emergency shutdown of all strategic or critical equipment in the facility including columns, fired heaters, separators, surge vessels, pipeline and manifolds compressors and pump discharge headers are based on fail-safe logic designs in accordance with standards approved by the Authority and best petroleum industry practices;

- (h) fire sensors, gas detection and alarm system are installed at strategic points of the facility and its offsite facilities; and
 - (i) adequate fire mitigation systems are provided at all identified fire risk areas of a facility.
- (2) The licensee shall have an emergency response plan at all times.

Risk Management and Safety Document

8. Risk assessment.

(1) The licensee shall ensure that risk assessment on health, process safety and working environment is planned, carried out and used.

(2) The risk assessment carried out under subregulation (1) shall identify the likely incidents, hazards or accidents that may occur during midstream operations or in the operations of a facility and their consequences to human life, the environment and the facility.

(3) The results of the risk assessment shall be included as part of the basis for the decision-making process in the course of ensuring that the safety aspects of the operations are in accordance with the requirements of the Act, these Regulations and any other applicable law and with the licensee's safety objectives and acceptance criteria defined under these Regulations.

(4) The licensee shall carry out risk assessment to ascertain the likely consequences of single failures or sequential failures in and connected to the operation of process and auxiliary facilities.

(5) The licensee shall plan and implement in a controlled and comprehensive manner risk assessment that is necessary to identify circumstances of significance risk to safety in connection with facilities, installation, operation and disposal; and where applicable, removal which is not comprised by a decision relating to disposal of decommissioned facilities according to section 46 of the Act.

9. Facility specific occupational safety and health.

(1) The licensee shall identify facility-specific occupational safety and health concerns based on risk assessment carried out under regulation 8 using established methodologies including—

- (a) qualitative risk assessment;
- (b) semi-quantitative risk assessment; or
- (c) quantitative risk assessment.

(2) The methodologies referred to under subregulation (1) shall include the adoption of a systematic and structured approach for the prevention and control of physical, chemical, biological, radiological health and safety hazards.

10. Planning and implementation of risk assessment.

(1) The licensee shall—

- (a) plan the implementation of risk assessment to follow the progress of midstream operations to ensure that it is used actively in the planning and implementation of midstream operations;
- (b) stipulate requirements to ensure the quality of implementation and use of the risk assessment; and
- (c) give reasons for the choice of analytical method used.

(2) The licensee shall ensure that identified risks are assessed with reference to the acceptance criteria for risks in midstream operations to identify the dimensioning accidental events.

(3) The dimensioning accidental events referred to under subregulation (2) shall form the basis for a systematic selection of the technical, operational and organisational risk reducing measures to be implemented by the licensee.

(4) The risk reducing measures shall consist of probability reducing and consequence reducing measures, including contingency measures.

(5) The effect of the risk reducing measures implemented by the licensee shall be documented and assessed both individually and in a wider perspective.

(6) The licensee shall systematically follow up the implementation of the risk reducing measures and of the basic assumptions made in the risk analysis to ensure that safety in midstream operations is maintained within the defined acceptance criteria for risk.

(7) The licensee shall communicate results from the risk assessment to the employees and ensure that the results are used actively in preventive safety measures and efforts.

11. Use of results from risk assessment.

(1) The licensee shall use the results from the risk assessment undertaken under regulation 8 to reduce risk as far as this is practically feasible and the results shall be included as an integral part of the planning and decision-making processes of the licensee.

(2) The licensee shall identify location and operation related circumstances which are of particular significance to safety of midstream operations.

(3) The licensee shall select facilities that are able to operate safely under the circumstances referred to under subregulation (2).

12. Updating of risk assessment.

(1) The licensee shall update the risk assessment that has been carried out under regulation 8 to follow the progress of the midstream operations in order to ensure continuity in the basis for decisions relating to the safety of operations.

(2) The licensee shall define conditions or criteria that may require updating of previous risk assessment carried out by the licensee during the operational phase of a facility.

13. Major accident prevention policy.

(1) Subject to subregulation (4), the licensee shall prepare and retain a written major accident prevention policy.

(2) The major accident prevention policy referred to under subregulation (1) shall—

- (a) be designed to ensure a high level of protection of human health and the environment;
- (b) be proportionate to the major accident hazards;
- (c) set out the licensee's overall aims and principles of action; and
- (d) set out the role and responsibility of management, and its commitment towards continuously improving the control of major incidents or accidents.

(3) A major accident prevention policy shall be prepared by the licensee—

- (a) of a new facility, within—
 - (i) a reasonable period of time prior to construction or operation of the facility; or
 - (ii) a reasonable period of time prior to modifications leading to a change in the inventory of hazardous substances at the facility; and
- (b) of an existing facility, within six months from the date of commencement of these Regulations.

(4) The licensee shall review its major accident prevention policy-

- (a) in the event of—

- (i) a significant increase or decrease in the quantity of hazardous substances; or
 - (ii) a significant change in the nature or physical form of the hazardous substances or the processes employing them which could have significant consequences in terms of major incidents or accident; and
- (b) in any other case, not later than five years after the date on which the policy was last reviewed, and where necessary it must revise and retain the revised policy.

(5) The licensee shall implement its major accident prevention policy by a safety management system.

(6) The safety management system referred to under subregulation (5) shall meet the requirements specified in Form 1 set out in Schedule 1.

Safety Document

14. Safety document.

(1) The licensee shall prepare a safety document for the purposes of-

- (a) demonstrating that a major accident prevention policy and a safety management system for implementing it have been put into effect in accordance with the Act, these Regulations and any other applicable law;
- (b) demonstrating that the major accident, hazards and possible major accident scenarios in relation to a midstream operation or a facility have been identified and that the necessary measures have been taken to prevent such accidents and to limit their consequences to human health and the environment;

- (c) demonstrating that adequate safety and reliability have been taken into account in the design, construction, operation and maintenance of any installation, storage facility, equipment and infrastructure connected with the facility's operation which are linked to major incidents, hazards or accidents inside the facility;
 - (d) demonstrating that an emergency plan has been prepared in accordance with these Regulations, the Act and any applicable laws; and
 - (e) providing sufficient information to the Authority to enable decisions to be made regarding the siting of new operations or developments around the facility.
- (2) The safety document prepared by the licensee shall—
- (a) contain as a minimum the data and information specified in Form 2 set out in Schedule 1; and
 - (b) identify the personnel and organisations involved in preparing the safety document.
- (3) The licensee shall send a safety document to the Authority-
- (a) where the facility is a new facility, within three months prior to—
 - (i) the commencement of construction of permanent facilities;
 - (ii) the start of operation of the facility;
 - (ii) any substantial modifications leading to a change in the inventory of hazardous substances at the facility; and
 - (b) where the facility is in existence, within six months from the date of commencement of these Regulations.

(4) The licensee is not required to include in a safety document any information previously sent to the Authority under subregulation (3), if that information remains valid.

(5) The licensee shall not start construction of a facility, operation of a facility or make any alteration or substantial modifications to a facility before the Authority approves the safety documents submitted under this regulation.

(6) The Authority shall within sixty days following receipt of a safety document—

- (a) communicate the conclusions of its examination of that safety document to the licensee; or
- (b) if necessary, recommend to prohibit the bringing into operation or continued operation, of a midstream facility or any part of a midstream facility in accordance with the Act.

15. Review of safety document.

(1) The licensee shall review the safety document, and where necessary, revise the safety document every five years.

(2) Notwithstanding subregulation (1), a safety document shall be reviewed, and where necessary, revised by the licensee—

- (a) following a major incident or accident at a facility or during a midstream operation;
- (b) where a review is justified by new facts or by technological knowledge about safety matters, including knowledge arising from analysis of accidents or near misses;
- (c) where a review is justified by developments in knowledge concerning the assessment of hazards;
- (d) before making any alteration or substantial modification to the facility, process or the nature or physical form or quantity of hazardous substances which may have significant consequences for major incidents, hazards or accident; or

- (e) following any change to the safety management system which may have significant consequences for the prevention of major accidents or the limitation of the consequences of major incidents or accidents to human health and the environment.

(3) The licensee shall, in carrying out a review of a safety document take into account the data and information specified in Form 2 set out in Schedule 1.

(4) The licensee shall submit the revised safety document or revised parts of the safety document to the Authority for approval within twenty one days from the date of completion of the revision.

(5) Where subregulation (2) (d) applies, a revised safety document or revised parts of the safety document shall be submitted to the Authority for approval before the commencement of the alteration or substantial modification of a facility.

(6) Where a safety document has been reviewed under this regulation but not revised, the licensee shall inform the Authority in writing within twenty one days from the date of completion of the revision.

Risk Management

16. Risk reducing measures.

(1) The licensee shall, in reducing risk—

- (a) select technical, operational and organisational solutions that reduce the probability of harm, errors, hazard, incidents or accident situations that may occur;
- (b) establish barriers;
- (c) choose solutions and barriers with the greatest risk-reducing effect based on an individual as well as an overall evaluation;
and

- (d) ensure that collective protective measures are preferred over protective measures aimed at individual facilities or operations.

(2) The licensee shall implement risk reducing measure for each defined dimensioning accidental event to ensure that—

- (a) employees outside the immediate vicinity of the accident or accident are not injured;
- (b) evacuation, on and from a facility can be carried out in a safe and organised manner;
- (c) employees can remain safe in one or more areas of an affected facility until safe evacuation is carried out;
- (d) control rooms and any other areas of importance within the facility to combat an accidental event remain operational until safe evacuation is carried out;
- (e) external assistance can be received and carried out effectively; and
- (f) harm to human health or damage to the environment is avoided or minimised.

(3) The licensee shall, to the extent practicable, give priority to probability reducing measures over consequence reducing measures.

17. Barriers.

(1) The licensee shall establish barriers that—

- (a) reduce the probability of failures, incidents, hazards and accident situations from developing; and
- (b) limit possible harm to human health or the environment from failures, hazards and accidents.

(2) The licensee shall put in place strategies and principles that form the basis for the design, use and maintenance of barriers to ensure that the functions of the barriers is safeguarded throughout the life of the facility or midstream operation.

(3) The licensee shall ensure that employees are aware of what barriers have been established and which function they are intended to fulfil, as well as the performance requirements defined in respect of the technical, operational or organisational elements necessary for the individual barrier to be effective.

(4) The licensee shall ensure that employees are aware of which barriers are not functioning or have been impaired.

(5) The licensee shall implement the necessary measures to remedy impaired barriers.

18. Acceptance criteria.

(1) The licensee shall draw up acceptance criteria for risk in each midstream operation undertaken or a facility.

(2) The acceptance criteria shall be drawn up with reference to the safety objectives of the licensee, standards approved by the Authority and best petroleum industry practices.

(3) The acceptance criteria shall—

- (a) take into account the probability and the consequences of identified accidental events;
- (b) reflect the safety objectives and characteristics of the facility or midstream operation concerned;
- (c) be subject to assessment with regard to the need for revision through the various phases of the operation, where factors such as operational experience, modifications and new technology shall be taken into account; and

- (d) constitute the basis for the selection of dimensioning accidental events.

(4) The licensee shall submit documentation for the evaluations on which the stipulation of acceptance criteria is based.

General Health and Safety Requirements

19. Community health and safety.

The licensee shall take measures to protect the community where the facility is located or where a midstream operation is taking place from impacts of a facility or midstream operations during the construction, operation and decommissioning of facilities and shall comply with the applicable laws, standards approved by the Authority and best petroleum industry practices.

20. Safety signs.

(1) The licensee shall ensure that—

- (a) safety signs are posted at the entrance to a room, zone or equipment where employees are likely to be exposed to incidents, hazards or accidents or at the restricted areas;
- (b) there is adequate response and rescue against incidents, hazards or accidents;
- (c) evacuation equipment, as well as the route to the evacuation equipment is marked with safety signs; and
- (d) any other notices warning the employees and other people at the facility about a specific condition in the interest of safety to life and property, are made visible.

(2) The safety signs shall be posted in the manner prescribed in Schedule 2.

21. Training in safety and working environment.

(1) The licensee shall ensure that every employee has the competence necessary to carry out his or her duties in accordance with the Occupational Safety and Health Act, 2006 and these Regulations.

(2) An employee shall have training in occupational health and safety and in handling incidents, hazards and accidents.

(3) An employee who works with radioactive sources shall have completed theoretical and practical radiation protection training.

(4) The licensee shall provide training upon employment, transfer or change of work tasks, introduction of new work equipment or changes to the equipment and upon introduction of new technology that applies to the employee's workplace or work tasks.

(5) The training shall be adapted to changed or new risks in the midstream operation and shall be repeated when necessary.

22. Instructions and emergency procedures.

(1) The licensee shall provide instructions to be followed during an emergency and shall ensure that every employee knows his or her functions under the instructions.

(2) The licensee shall send a copy of the instructions and any subsequent alterations to the instructions to the Authority.

23. Manual of instructions.

(1) The licensee shall prepare a manual of instructions for safety in operations and bring the manual to the attention of every employee or any other person participating in a midstream operation.

(2) An employee or any other person participating in a midstream operation shall comply with the requirements of the manual of instructions which are relevant to the duties to be performed by him or her.

24. Responsibility of person-in-charge.

(1) The person-in-charge shall supervise the operations under his or her command to ensure that—

- (a) the employees are working in a safe condition; and
- (b) all tools and equipment are maintained in a safe working condition.

(2) For the avoidance of doubt, the licensee shall remain liable for the actions of the person-in-charge.

25. Responsibility of employees.

(1) An employee shall cooperate on implementation of measures put in place by the licensee to create a satisfactory and safe working environment.

(2) An employee shall—

- (a) use the personal protective equipment provided by the licensee, exercise caution and contribute to prevention of accidents, incidents and injury;
- (b) immediately notify the licensee and the safety representative and other employees when he or she becomes aware of any faults or defects that may cause danger to life or health;
- (c) discontinue work where the employee considers that the work cannot continue without causing danger to life or harm to the environment; and
- (d) notify the licensee or person-in-charge where another employee suffers injury at work or contracts diseases which the employee believes to result from the work or conditions at the working premises.

(3) An employee charged with supervision of other employees shall ensure observance of safety and health precautions.

26. Record of persons on facility.

(1) The licensee shall at all times keep a record of every person on a facility.

(2) The record referred to under subregulation (1) shall—

(a) specify particulars of all persons on the facility; and

(b) be made available at all time for examination by an authorised officer.

(3) The licensee shall maintain a record of occupational accidents, diseases and dangerous occurrences that occur at a facility.

27. Audit of safety management systems.

(1) The licensee shall annually engage an independent person to carry out health and safety audits in accordance with these Regulations and any other applicable laws and submit a report to Authority.

(2) The licensee shall set and monitor other aspects of the safety management system and performance standards for the audit and review process.

(3) The person carrying out the audits in subregulation (1) shall be independent and competent to ensure that the audit is objective and provides the required independent perspective.

(4) The licensee shall establish performance standards to identify responsibilities, timing, and systems for reviewing the safety management systems.

(5) For purposes of this regulation, “audit” means the structured process of collecting independent information on the efficiency, effectiveness and reliability of the total safety management system for a facility or midstream operation and drawing up plans for corrective action.

28. Use of English language.

English language shall be used in all communication and operations at a facility to the extent possible, however any other language that is spoken by the employees may be used provided its use does not compromise the health and safety of the employees.

PART III—OCCUPATIONAL HAZARDS

Handling of Hazardous Material and Substances

29. Hazardous material and substances.

(1) The licensee shall handle, store and transport hazardous material and substances in accordance with standards approved by the Authority and best petroleum industry practices, regulations made under section 3 (8) of the Act, the National Environment Act and the Occupational Safety and Health Act, 2006.

(2) The licensee shall ensure that containers for transportation and storage of materials and substances are colour-coded and labelled in accordance with standards approved by the Authority and best petroleum industry practices to ensure easy identification.

(3) The licensee shall avoid using hazardous substances in the work place and where practicable, substitute the hazardous substance with another substance of less risk to human health and the environment.

(4) The licensee shall ensure that—

- (a) fabrication or selection of materials, including chemicals, inflammable and explosive goods, radioactive materials and construction materials is done in a proper manner;
- (b) storage, use and removal of the material is organised in an appropriate manner;
- (c) when selecting materials and chemicals, materials with least health hazard is preferred; and

(d) the material and chemicals referred to in paragraph (c) can be recycled, where applicable.

(5) The licensee shall keep a record of all hazardous substances and biological substances contained at the facility or during midstream operations including information on physical, chemical and hazardous properties; preventive safety measures and first-aid treatment.

(6) The licensee shall, prior to commencement of installation or operation of a facility and thereafter, every six months, send to the Authority a notification of all hazardous chemicals and biological substances using Form 3 set out in Schedule 1.

(7) Where there is an existing facility, the licensee shall send to the Authority a notification within thirty days before the operation of the from the date of commencement of these Regulations.

30. Handling or storage of hazardous substances.

(1) The licensee and the person-in-charge shall ensure that warning signs are displayed at appropriate distance about the presence of hazardous substances or gases in every area where hazardous substances or gases are present or could cause a hazard to a person.

(2) The licensee shall, as far as practicable, provide automated warning and detection systems in areas where there is a likelihood of exposure to a hazardous substance or gas.

(3) The licensee shall manage safety hazards related to handling and storage of liquid or gaseous substances depending on the quantities and type where the liquid or substances are accidentally released.

(4) The licensee shall minimise the conditions for reactive or catastrophic events related to liquid or gaseous substances, including fire and explosion.

31. Exhaust ducts and gases.

(1) The licensee shall ensure that a facility has exhaust ducts for combustion products designed and placed to-

- (a) prevent hot surfaces and sparks from igniting potential leaks of combustible liquids and gases; and
- (b) ensure that waste gases are not an inconvenience for employees or create hazardous situations.

(2) The licensee shall ensure that exhaust gases from engines, motors or devices using gas instead of steam or air to operate pumps or gases from any other power driven equipment are discharged in accordance with national air quality standards, regulations made under the National Environment Act and best petroleum industry practices.

32. Control of asphyxiant gas.

(1) The licensee and any person involved in midstream operations shall prevent potential release and accumulation of nitrogen or any other gases into a work environment, which if released or accumulated is likely to create asphyxiating conditions due to displacement of oxygen.

(2) Prevention and control measures to reduce risks of asphyxiant gas release under subregulation (1) may include—

- (a) design and placement of nitrogen or any other gas venting systems according to standards approved by the Authority and best petroleum industry practices;
- (b) installation of an automatic emergency shutdown system which can—
 - (i) detect and warn of the uncontrolled release of nitrogen or any other gas;
 - (ii) initiate forced ventilation; and
 - (iii) minimise the duration of releases; and
- (c) implementation of confined space entry procedures as described under these Regulations, standards approved by the Authority and best petroleum industry practices.

33. Chemical safety.

(1) The licensee shall ensure that employees are protected from exposure to chemical hazards by putting in place measures including employee training, use of personal protective equipment and toxic gas detection and protection systems with alarms.

(2) The licensee shall apply chemical and technical solutions that prevent harmful chemical influences on people and the environment, and which reduce the need for use of chemicals.

(3) When choosing, designing and placing equipment and systems for storage, use, recovery and destruction of chemicals, the licensee shall take the following into consideration—

- (a) health and safety of employees;
- (b) corrosion or other forms of material decomposition;
- (c) fire and explosion hazard; and
- (d) risk of pollution.

34. Provision of showers.

(1) The licensee shall provide water showers and fountains with quick opening valves and an outlet to supply water to both eyes simultaneously, at every location where employees are exposed to liquid corrosives under pressure or where liquid corrosives are handled in bulk.

(2) Every shower and fountain shall be conspicuously marked by special marking, sign or other identification.

35 Storage and transportation of corrosives.

The licensee shall ensure that-

- (a) where a sample of corrosives is carried or transported in breakable bottles from one part of a facility to another or from a process unit or tank car to the laboratory, the bottles are transported in a safe container that has individual compartments and strong carrying handles;

- (b) the container is marked or tagged for identification, vented and constructed to ensure that a gas or vapor pressure does not build up within the contents if a bottle leaks or breaks;
- (c) the maximum pressure of the air used for transferring corrosives from a vessel does not exceed the required or allowable working pressure of the vessel;
- (d) the maximum pressure of the air for use in unloading corrosives from tank cars does not exceed the maximum allowable air pressure marked on the tank car shell and where there is no marking, the air pressure used during unloading does not exceed 25 psi;
- (e) where the available pressure of the air source used to unload or transfer corrosives exceeds the maximum pressure limitations in paragraphs (c) and (d), a pressure regulating device is installed in the air line to reduce the air pressure to a point of the maximum allowable pressure of the vessel;
- (f) a pressure relieving safety device and a pressure gauge is installed between the pressure regulator and the vessel;
- (g) the pressure relieving safety device is set at a pressure of the maximum limit in paragraphs (c) and (d); and
- (h) a pressure regulator, pressure relieving safety device and a pressure gauge is used in operations for which it is designed and is maintained in an operative condition.

Process Safety

36. Requirements relating to operations.

(1) The licensee shall carry out midstream operations under the licence in a safe and proper manner in accordance with the Act, these Regulations, any other applicable law, standards approved by the Authority and best petroleum industry practices for such midstream operations.

(2) The licensee shall ensure that facilities are suitable for the intended use and manned to ensure that they are safe during normal operations and in emergency situations.

(3) The licensee shall ensure that equipment and protective systems intended for use in potentially explosive atmospheres on fixed installations and devices for use outside the explosive atmosphere comply with the requirements under these Regulations, the Occupational Safety and Health Act, 2006 and any other applicable law.

37. General requirements relating to process safety.

(1) The licensee shall develop a process safety management system to ensure that—

- (a) employees participate in conducting and developing process hazard analyses and other elements of process management;
- (b) there is availability of process safety information pertaining to dangers of the highly hazardous chemicals used or produced by the process, the technology of the process and equipment in the process;
- (c) process hazard analysis is performed on each element of the covered process;
- (d) employees are trained in process safety management covering process hazards and safe work practices;
- (e) contractors and subcontractors involved in or around the covered process are informed of the required process safety management elements;
- (f) pre-startup safety review is done for initial startup, following turn-around or after emergency shut down;
- (g) an operating procedure has clear written instructions for all expected phases of operation;

- (h) mechanical integrity of critical process equipment and other equipment is designed, installed and operated properly;
- (i) a hot work permit is issued for hot work operations conducted on or near a covered process;
- (j) management of change and procedures to manage the changes, including technical basis for the change, impact of the change on employee safety and health and time period for change;
- (k) incident investigation is done by an appropriate and qualified team with knowledge in the covered processes and a report highlighting the date, description and factors contributing to incident, date of start of investigation and recommendations is issued;
- (l) emergency planning and response including emergency action plan for the entire facility, emergency evacuation written plans, evacuation maps and assembly points are issued;
- (m) compliance audit is done to evaluate compliance with standards approved by the Authority and best petroleum industry practices for effective process safety management implementation; and
- (n) where the licensee enters into any agreement with a clause for the protection of trade secrets, the clause shall exclude information relating to implementation of a process safety management plan.

(2) The licensee shall operate process and auxiliary facilities to ensure that a single failure during operation does not lead to hazard, incident or accident.

(3) The principle under subregulation (2) shall apply to operational errors and equipment failure.

38. Process safety system.

(1) The licensee shall ensure that each facility has a process safety system, which shall—

- (a) include a plan for employee training on operational hazards;
- (b) include procedures for management of—
 - (i) change in operations;
 - (ii) process hazard;
 - (iii) maintenance of mechanical integrity;
 - (iv) hot work permits;
 - (v) process safety information;
 - (vi) pre-start up review;
 - (vii) operating procedure;
 - (viii) mechanical integrity;
 - (ix) incident investigation;
 - (x) emergency planning and response;
 - (xi) compliance audit;
 - (xii) change; and
 - (xiii) trade secrets and process safety related information;
- (c) include a safe transportation management system where the project includes a transportation component for raw or processed hazardous materials;
- (d) include a procedure for handling and storage of hazardous materials;
- (e) include emergency planning and the preparation and implementation of an emergency management plan;

- (f) be designed such that it enters or maintains a safe condition if a fault occurs that can prevent the system from functioning;
- (g) be designed with independent levels of safety to protect equipment;
- (h) require that components incorporated in the process safety system are suitable for the loads to which they may be subjected;
- (i) require that sensors activating shutdown functions give a warning signal when activated;
- (j) require that block valves incorporated in the process safety system are secured in a correct position;
- (k) provide that the system ensures that appropriate testing of the process safety is possible without interrupting the operations; and
- (l) contain any other relevant information.

(2) The licensee shall ensure that process safety system referred to under subregulation (1) is able to perform its functions independently of other systems.

39. Implementation of the process safety programme.

(1) A process safety program shall be implemented according to standards approved by the Authority and best petroleum industry practices.

(2) A process safety program in subregulation (1) shall include the following—

- (a) physical hazard testing of materials and reactions;
- (b) hazard analysis studies to review the process chemistry and engineering practices;

- (c) examination of preventive maintenance and mechanical integrity of the process equipment and utilities;
- (d) employee training; and
- (e) development of operating instructions and emergency response procedures.

40. Gas release system.

(1) The licensee shall ensure that a facility equipped with or attached to process facilities has a gas release system to prevent escalation of hazards, incidents and accidents by quickly reducing the pressure in the equipment, and is designed to ensure that the release of gas does not harm employees, equipment or the environment.

(2) The licensee shall ensure that—

- (a) gas release system referred to under subregulation (1) is designed to ensure triggering of depressurization manually from the control room;
- (b) liquid separators installed in the gas release system are secured against overfilling and the status of components in the gas release system is monitored; and
- (c) the gas release system is designed so that maintenance and functional testing can be conveniently carried out without interrupting operations.

41. Depressurisation and flare system.

(1) A facility shall have an automatic depressurisation and flare system capable of being activated manually from the control room, where applicable.

(2) The depressurisation and flare system shall be designed to prevent escalation of incidents, hazards or accidents by reducing the pressure in the equipment to ensure that gas releases do not harm employees, equipment or the environment.

(3) A liquid separator installed in the flare system shall be secured against overfilling.

42. Installations, systems and equipment.

The licensee shall ensure that—

- (a) installations, systems and equipment are designed in a robust manner in accordance with standards approved by the Authority and best petroleum industry practices to ensure that—
 - (i) the installation, system or equipment can be operated, tested and maintained without endangering human life, health, the environment and material assets; and
 - (ii) the installation, system or equipment is suitable for use and is able to withstand the loads it is exposed to during operation;
- (b) the installation, system or equipment are clearly marked to facilitate safe operation and prudent maintenance; and
- (c) the installation, system or equipment in caverns are secured to prevent leaks from the installation.

43. Emergency shutdown system.

(1) A facility shall be installed with an emergency shutdown system which shall—

- (a) be able to prevent or mitigate the development of an incident, accident or hazard and limit the consequences of the incident, hazard or accident;
- (b) be able to perform the intended functions independently of other systems and have a simple and clear command structure;
- (c) be designed to maintain safe conditions in case of a fault that may prevent the system from functioning;

(d) be capable of being activated manually from trigger stations that are located in strategic locations on the facility or from the control room; and

(e) be able to bring the facility to a safe condition in the event of a fault.

(2) The licensee shall ensure that-

(a) emergency shutdown valves are installed to stop streams of petroleum commodities, petroleum products and chemicals to and from the facility;

(b) the emergency shutdown valves are able to isolate the fire areas of the facility;

(c) components incorporated in the system are designed for the loads to which they may be subjected;

(d) the system can be tested without interrupting operations or compromising on the safety of the facility;

(e) all accessible emergency shutdown valves are equipped with position indicator and the status of the completed action can automatically be transferred to the control room; and

(f) re-setting of emergency shutdown valves is performed in a safe and controlled manner.

44. Qualification and use of new technology and new methods.

(1) Where a midstream operation entails the use of new technology or new methods, the licensee shall establish the criteria for the development, testing and use of the new technologies or methods, taking into account the requirements for health, safety and working environment in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The criteria referred to in subregulation (1) shall represent the relevant conditions for use, and the technology or methods shall be adapted to already accepted solutions.

(3) The licensee shall demonstrate that qualification or testing used and applicable requirements can be satisfied using the new technology or methods.

45. Safety functions.

(1) The licensee shall ensure that a facility is equipped with necessary safety functions that can at all times—

- (a) detect abnormal conditions;
- (b) prevent abnormal conditions from developing into incidents, hazards or accidents; and
- (c) limit the damage caused by incidents, hazards or accidents.

(2) The status of safety functions shall be available in the control room.

46. Material handling, transport routes, access and evacuation routes.

(1) The licensee shall ensure that a facility and transport route can handle material and employees traffic in a manner that ensures health, safety and environment protection.

(2) The licensee shall ensure that—

- (a) material is handled by a mechanical system and technical appliances; and
- (b) a facility has a stairway or ramp where access routes between different levels are used daily and at least two escape routes from areas with regular traffic.

47. Lifting appliances and equipment.

(1) The licensee shall ensure that equipment for transporting employees is designed to ensure safety of the employees carrying out operations above normal work height.

(2) The licensee shall designate a person to ensure that lifting operations are carried out using lifting appliances specially designed for that purpose and certified by an inspector.

(3) The licensee shall ensure that lifting appliances and operations comply with requirements of the Occupational Safety and Health Act, 2006 and standards approved by the Authority and best petroleum industry practices.

48. Control and monitoring system.

(1) The licensee shall ensure that a facility has control and monitoring systems with associated alarms to warn of incidents, variations or faults that are significant to health, safety and working environment.

(2) The alarms referred to under subregulation (1) shall be issued such that they can be perceived and responded to within the time required for safe use of equipment, plant and processes.

49. Control room.

(1) The licensee shall ensure that the structure of the control room is suitable to withstand possible major incidents, hazards or accidents.

(2) The layout of the control room and the arrangement of panels shall ensure effective ergonomic operation of the plant in normal circumstances and emergency situations.

50. Drainage systems.

The licensee shall ensure that—

- (a) a facility is equipped with drainage systems that can collect and divert petroleum, chemicals or other liquids so that the risk of fire, harm to employees and pollution to the environment is minimised; and

- (b) the facility is designed to ensure that any discharge of petroleum, chemicals or any other liquid results in the least possible pollution of the environment.

PART IV—ELECTRICAL INSTALLATIONS

51. Working and operation of electrical installations.

(1) The licensee shall implement the necessary measures to prevent injury to persons and minimise hazards, incidents and accidents during work near live installations, in or near earthed and short-circuited installations and during operation of low and high voltage installations.

(2) The licensee shall designate a competent person or an employee responsible for the electrical installations.

52. Safety procedures in electrical installations.

(1) The licensee shall ensure that testing or work performed on electrical equipment is performed by a competent person or an employee.

(2) Where a competent person or employee referred to in subregulation (1) is likely to receive an electrical shock during the performance of testing or work—

- (a) the competent person or the employee shall use insulated protection equipment and tools to protect him or her from injury during work; and
- (b) the competent person or employee shall be instructed and trained in the use of the insulated protection equipment and tools.

(3) Where electrical equipment is live or is likely to become live during operations, the competent person or an employee shall not work on the equipment unless—

- (a) the licensee has instructed the employee in safety procedures for work on live conductors;

- (b) a safety ground is connected to the equipment; and
- (c) the equipment is isolated in accordance with regulation 55.

(4) The competent person or an employee shall not work on or near high voltage electrical equipment unless he or she is authorised by the licensee.

(5) A legible sign with the words “DANGER — HIGH VOLTAGE” in letters of not less than 50 mm in height on a contrasting background or a symbol conveying the same meaning shall be posted in a conspicuous place at every approach to live high voltage electrical equipment.

(6) All electrical installations shall be designed with safeguards and other necessary protection that prevent abnormal conditions or faults that might result in danger for the employees and the facility in accordance with standards approved by the Authority and best petroleum industry practices.

(7) The electrical installations shall be designed with adequate protection against—

- (a) electrical shock during normal use and in the event of faults;
- (b) thermal effects;
- (c) over current;
- (d) fault currents;
- (e) over voltage;
- (f) under voltage;
- (g) variations in voltage and frequency;
- (h) power supply failure;
- (i) ignition of explosive gas atmosphere, electromagnetic disturbances; and
- (j) health hazard as a result of electromagnetic fields.

(8) An earthing system shall be installed to prevent static electricity in connection with explosive atmospheres.

(9) An electrical installation shall have a lightning protection system.

53. Safety watcher.

(1) Where an employee is working on or near live electrical equipment, the licensee shall designate a qualified employee as a safety watcher to—

- (a) warn all employees in the work place of the danger or any hazard; and
- (b) ensure that all safety precautions and procedures are complied with.

(2) The employee designated as a safety watcher under subregulation (1) shall be—

- (a) informed of his or her duties and of the hazard involved in the work;
- (b) trained and instructed in the procedures to follow in the event of an emergency;
- (c) authorised to stop immediately any part of the work that he or she considers dangerous; and
- (d) free of any other duties that might interfere with his or her duties as a safety watcher.

(3) The employee designated as a safety watcher under subregulation (1) shall report immediately to the person-in-charge in case of any hazard and the person-in-charge shall ensure that the hazard is rectified.

54. Coordination of work.

The licensee shall ensure that employees and every other person working in connection with electrical equipment, including a safety watcher are informed by the person-in-charge in respect to the safe coordination of his or her work.

55. Isolation of electrical equipment.

(1) The licensee shall ensure that before an employee isolates any electrical equipment or changes or terminates the isolation of electrical equipment, the person-in-charge issues written instructions with respect to the procedures to be followed for the safe performance of that work.

(2) The instructions referred to in subregulation (1) shall—

- (a) state the isolation procedures to be followed;
- (b) identify the electrical equipment to which the instructions apply;
- (c) describe any tests to be performed;
- (d) specify particulars of the tags or signs to be used; and
- (e) specify the protection equipment to be used.

(3) A tag or sign referred to in subregulation (2)(d) shall—

- (a) contain the words “DO NOT OPERATE”; and display a symbol conveying the same meaning;
- (b) show the date and hour at which the electrical equipment was isolated;
- (c) show the name of the employee performing the work or live test;
- (d) where used in connection with a live test, be distinctively marked as a testing tag or sign;
- (e) be removed only by the employee performing the work or live test; and
- (f) be used strictly for the purpose of notifying people that the operation or movement of the electrical equipment is prohibited during the performance of the work or live test.

(4) A copy of the instructions referred to in subregulation (1) shall be shown and explained to the employees in the work place in which the electrical equipment is located.

(5) The instructions referred to in subregulation (1) shall be kept readily available for use by employees at the work place in which the electrical equipment is located.

56. Control devices, switches, cords and cables.

The licensee shall ensure that-

- (a) a control device is designed and located to allow quick and safe operation at all times;
- (b) the path of access to every electrical switch, control device or meter is free from obstruction;
- (c) where an electrical switch or other control device controlling the supply of electrical energy to equipment is only operated by a person authorised by the licensee, the switch or other control device is fitted with a locking device only activated by the person authorised; and
- (d) control switches for all electrically operated machinery are clearly marked to indicate the switch positions that correspond to the electrical circuits being controlled.

57. Defective electrical equipment.

The licensee shall ensure that defective electrical equipment is disconnected from its power source by means other than the control switch and notices are placed on the equipment and at the control switch to indicate that the equipment is defective.

58. Electrical fuses.

(1) Electrical fuses shall be of the correct ampere rating and fault capacity rating for the circuit in which they are installed.

(2) An employee shall not replace missing or burnt-out fuses unless authorised by the person-in-charge.

59. Power supply cables.

The licensee shall ensure that—

- (a) power supply cables for portable electrical equipment are not placed in areas used for vehicles unless the cables are protected by guards or any other means of protection; and
- (b) a three-wire power supply cable on electrical equipment or on an electrical appliance is not altered or changed for the purpose of using the equipment or appliance on a two-wire power supply.

60. Grounded electrical equipment.

Grounded electrical equipment and appliances shall only be used when connected to a matching electrical outlet receptacle.

PART V—WORKING ENVIRONMENT IN FACILITIES AND DURING
MIDSTREAM OPERATIONS

General Requirements

61. Working environment.

(1) The licensee shall ensure that-

- (a) standards of safety, health and working environment are continuously developed and improved in accordance with the Occupational Safety and Health Act, 2006;
- (b) when planning and arranging the work, emphasis is placed on ensuring safety and health and preventing injuries of employees;
- (c) the organisation, arrangement and management of work, working hours, pay systems, including use of performance-related pay and technology are arranged to ensure that employees are not exposed to adverse effects on their health;

- (d) the facility is designed for the convenience of both female and male employees;
- (e) passageways, sanitary facilities and work equipment are to the extent possible, designed to cater for employees with disabilities;
- (f) every person on a facility bears an identity card;
- (g) the facility is in good hygiene and sanitation;
- (h) the physical working environment caters for buildings and equipment, indoor climate, lighting, noise and radiation;
- (i) the workplace is equipped and arranged to avoid adverse physical strain on the employees; and
- (j) when machines and other work equipment are being installed and used, care is taken to ensure that employees are not subjected to strain as a result of vibration and uncomfortable working positions.

(2) The licensee shall provide the necessary aids to employees in accordance with the Occupational Safety and Health Act, 2006.

(3) When handling chemicals or biological substances, the working environment shall be arranged to protect employees against exposure, accidents or injuries to health.

62. Licensee's duty in ensuring a safe and healthy environment.

(1) The licensee shall ensure that work at all levels of the facility is performed in accordance with the Occupational Safety and Health Act, 2006 and through cooperation with the employees and their representatives elected under regulation 161.

(2) The licensee shall put in place measures to ensure systematic health and safe working conditions and shall—

- (a) establish goals for health, safety and working environment;
- (b) have an overall view of tasks for work on health, safety and environment;
- (c) make a survey of hazards and carry out a risk assessment in each operation;
- (d) during planning and implementation of changes in operations, assess whether the working environment will be in compliance with the requirements of these Regulations and the Occupational Safety and Health Act, 2006;
- (e) ensure systematic prevention, management and follow up on the employees who are absent from work due to sickness; and
- (f) ensure continuous monitoring and control of the working environment and the health of the employees when necessitated by risk factors in a facility or during midstream operations.

63. Proper work station design.

(1) The licensee shall ensure that –

- (a) a work area and work equipment is designed and placed in a manner that ensures that employees are not subjected to adverse effect on health as a result of manual handling, work position, repetitive movements or work intensity likely to cause harm, injury or illness to the employee;
- (b) the work area provides for individual adjustable work stations and work positions; and
- (c) the work area is designed to ensure that an employee has a view that allows him or her to work safely.

(2) The licensee shall undertake regular ergonomic risk assessment wherever there is change in the process.

64. Noise, acoustics and vibrations.

(1) A facility shall be operated in accordance with standards approved by the Authority and best petroleum industry practices to—

- (a) limit exposure to noise that is harmful to hearing;
- (b) limit values for hazardous noise daily exposure in the facility to, $LEX_{8h} = 85$ dB and the peak sound pressure level to, $L_{pC, peak} = 130$ dB;
- (c) ensure that where noise limits in paragraph (b) are exceeded, a risk reducing measure is considered;
- (d) the noise level and acoustics do not preclude communication of significance to safety; and
- (e) the noise level in sleeping quarters, break rooms and recreation rooms is reduced as much as possible to contribute to rest and restitution.

(2) A facility shall be operated in a manner which ensures that vibrations do not harm employees at the facility or complicate the work of the employee.

(3) The National Environment (Noise Standards and Control) Regulations, 2003 and any other applicable law shall apply in relation to noise and vibrations in a facility or during midstream operations.

65. Incapacity of employees to work.

(1) Where the capacity of an employee to work is reduced as a result of an incident, hazard, accident or any other occupational hazard, the licensee shall implement the necessary measures to enable the employee retain his or her work or is given alternative suitable work, where possible.

(2) The necessary measures referred to in subregulation (1) may include special adaptation of the work or working hours or the alteration of work equipment.

(3) Where an employee is unable to work due to occupational hazards, the person-in-charge, shall allow the employee adequate time off for recovery before returning to work.

(4) Where it is deemed necessary, the person-in-charge shall in consultation with the employee prepare a follow-up plan for return to work of employees following an incident, hazard, accident, sickness or fatigue.

(5) The follow-up plan referred to under subregulation (4) shall contain appropriate measures by the licensee and assistance by the relevant authorities for further follow-up.

(6) The person-in-charge shall send the follow-up plan to the health professional responsible for granting sick leave to employees within four weeks and give a copy to the Inspector.

(7) The licensee and any other person involved in midstream operations shall comply with the Employment Act, 2006, the Workers' Compensation Act, 2000, the Occupational Safety and Health Act, 2006 and any other applicable law.

66. Accommodation.

(1) A living quarter shall be designed and located to withstand the design loads.

(2) The living quarter shall be equipped and furnished in accordance with the Public Health Act.

(3) The licensee shall, in designing the living quarter, comply with the requirements set out in the Occupational Safety and Health Act, 2006 and any other applicable law.

67. Ventilation and indoor climate.

(1) The ventilation in indoor and outdoor areas shall cover the need for air change and provide acceptable air quality free of hazardous pollution to comply with the air quality standards set under the National Environment Act.

(2) The ventilation shall be designed to control smoke from fire and ensure that hazardous and combustible gases do not penetrate closed non-related areas.

(3) The indoor climate shall be adapted to the individual room in regard to air needs, circulation, humidity and temperature.

68. Process equipment maintenance.

The licensee shall ensure that—

- (a) a scaffolding, staging or rigging do not prevent entrance and exit to the parts of a processing unit or hamper a person from gaining access to the processing unit in case of an emergency; and that the scaffolding, staging or rigging is promptly removed when no longer required;
- (b) where wood or other combustible scaffolding, staging or rigging is erected near hot equipment, it shall be spaced or insulated from the hot equipment to prevent ignition or char by contact or radiated heat;
- (c) a permanent platform, temporary staging or scaffold which gives access to processing equipment for maintenance purposes is not loaded in excess of its safe operating capacity;
- (d) provision is made to safely support and handle manhole covers, pipes, fittings or other materials by mechanical means, where necessary;
- (e) vessel manhole covers are installed vertically and are provided with hinges, davits or other means of support fitted with handles or other suitable means for connecting lifting devices;
- (f) a temporary or permanent platform is provided where employees are required to enter a vessel through a manhole on the side or end of the vessel and the bottom of the manhole is over three feet six inches above the ground or floor level;

- (g) the platform is located in less than three feet six inches below the bottom of the manhole through which entry is made; and
- (h) routine and periodic preventive maintenance is carried out on the process equipment in addition to the major overhauls as may be described in the manual prepared by the licensee.

69. Radiation.

(1) The licensee shall ensure that a facility is designed to minimise exposure of employees to radiation and to ensure that primary technical solutions which minimise the use of radioactive substances are applied.

(2) Where radioactive substances are used, safe transportation, handling and storage of the radioactive substances shall be ensured by the licensee.

(3) The Atomic Energy Act, 2008 or any other applicable law shall apply to radiation management in midstream operations and facilities.

70. Outdoor work areas.

(1) The licensee shall ensure that outdoor work areas have sufficient weather protection to reduce health risks to employees.

(2) Weather protection in outdoor areas shall be adapted to the expected periods of stay, the scope and character of the work, representative weather conditions and risk factors.

71. Provision of sufficient lighting for workplaces.

The licensee shall ensure that—

- (a) suitable lighting, whether natural or artificial, shall be secured and maintained in every part of a workplace, facility or during midstream operations in which a person works or passes;
- (b) all glazed windows and skylights used for lighting workrooms are, so far as is practicable, be kept clean on both the inner and outer surfaces and free from obstruction, except in cases of whitewashing or shading of windows and skylights, for the purpose of mitigating heat or glare;

- (c) all apparatus provided for producing artificial lighting are properly maintained;
- (d) the lighting is such that the working environment and safety are safeguarded during work, travel and return from work areas; and
- (e) where possible, daylight and a view is provided in workrooms and public rooms.

72. Provision of adequate sanitary conveniences.

The licensee and the person- in -charge shall ensure that, in any facility where midstream operations or any related work is carried out—

- (a) sufficient and suitable places of convenience for the employees are provided, maintained and kept clean;
- (b) effective lighting is provided in places of convenience;
- (c) where persons of both sexes are or are intended to be employed, except in the case of buildings where the employees are all members of the same family, the places of convenience have—
 - (i) proper and separate accommodation for persons of each sex;
 - (ii) separate approaches for each sex; and
- (d) the places of convenience for each sex shall be indicated by a suitable notice.

Working in Confined Space

73. General provisions relating to confined space.

(1) Before entry into a confined space is authorised, a competent person appointed by the licensee shall verify by tests that—

- (a) the concentration of any chemical agent in the confined space is not hazardous to human safety or health;
- (b) the concentration of airborne hazardous substances, other than chemical agents, in the confined space is not hazardous to human safety or health;
- (c) the percentage of oxygen in the atmosphere in the confined space is not less than 18 per cent and not more than 23 per cent by volume; and
- (d) the value, level or percentage referred to in paragraphs (a), (b) and (c) is maintained during the period of proposed occupancy of the confined space.

(2) The licensee shall ensure that—

- (a) any liquid in which a person may drown or any free-flowing solid in which a person may become entrapped is removed from the confined space;
- (b) the entry of any liquid, free-flowing solid or hazardous substance into the confined space is prevented by a secure means of disconnection or the fitting of blank flanges;
- (c) all electrical and mechanical equipment that presents a hazard to a person entering into, exiting from or occupying the confined space is disconnected from its power source and locked out; and
- (d) the opening for entry into and exit from the confined space is sufficient in size to allow safe passage of a person who is using protection equipment.

(3) The competent person referred to in subregulation (1) shall in a written guide—

- (a) set out—
 - (i) the location of the confined space;
 - (ii) a record of the results of the tests made in accordance with subregulation (1); and
 - (iii) an evaluation of the hazards of the confined space;
- (b) identify the procedure to be followed by a person entering into, exiting from or occupying the confined space;
- (c) identify the protection equipment referred to in Part VI of these Regulations to be used by every person granted access to the confined space; and
- (d) specify the protection equipment, emergency equipment and any additional equipment to be used by an employee who undertakes rescue operations in the event of an incident, hazard, accident or any other emergency.

(4) The competent person shall identify the emergency procedures to be followed in the event of an incident, hazard, accident or other emergency in or near the confined space, including immediate evacuation of the confined space when—

- (a) an alarm is activated; or
- (b) there is any significant change in the value, level or percentage referred to in subregulation (1).

(5) The licensee shall provide to every person granted access to the confined space the protection equipment referred to in subregulation (3) (d).

(6) The written guide referred to in subregulation (3) and any procedures identified in the guide shall be explained to any employee or person who is about to enter into the confined space, and the employee or person shall acknowledge by signing a dated copy of the guide that he or she has read the guide and the procedures have been explained to him or her.

(7) The employee or person referred to in subregulation (6) shall get instruction and training and shall—

- (a) follow procedures referred to in subregulation (3); and
- (b) use the protection equipment referred to in subregulation (3) (d).

(8) Where conditions in the confined space or the nature of the work to be performed in the confined space are such that subregulation (1) (a), (b), and (c) cannot be complied with, the following procedures shall apply-

- (a) a competent person trained in the procedures referred to in subregulation (1) shall be—
 - (i) in attendance outside the confined space;
 - (ii) in communication with the person inside the confined space; and
 - (iii) provided with a suitable alarm device for summoning assistance;
- (b) an employee or person granted access to the confined space shall be provided with and trained in the use of the protection equipment referred to in subregulation (3) (d);
- (c) an employee or person entering into, exiting from and occupying the confined space shall wear a safety harness that is securely attached to a life line that—
 - (i) is attached to a secure anchor outside the confined space; and
 - (ii) is controlled by the competent person referred to in paragraph (a); and

- (d) two or more persons shall be in the immediate vicinity of the confined space to assist in the event of an incident, hazard, accident or other emergency.

(9) Before a confined space is sealed, the person-in-charge of the confined space shall ascertain that no employee or any other person is inside the confined space.

74. Hot work operations in confined spaces.

(1) Hot work shall not be performed in a confined space where an explosive or flammable hazardous substance is present, unless a competent person engaged by the licensee determines that the work can be safely performed.

(2) Where hot work is to be performed in a confined space subject to subregulation (1)—

- (a) a competent person shall watch the area surrounding the confined space and maintain a fire protection watch until the likely hazard relating to fire ceases; and
- (b) the licensee shall provide firefighting equipment in the area surrounding the confined space.

75. Ventilation equipment in confined spaces.

(1) The licensee shall ensure that all confined areas where operations could lead to the emission and accumulation of explosive mixtures or toxic gases have suitable means of ventilation and a continuous ventilation monitoring system in accordance with standards approved by the Authority and best petroleum industry practices and shall be fitted with an audible warning device.

(2) Where a hazardous substance is produced by hot work in a confined space, the confined space shall be ventilated in accordance with subregulation (3).

(3) A person shall not be granted access to a confined space where an airborne hazardous substance or oxygen in the confined space is maintained at the value, level or percentage prescribed in regulation 73, unless—

- (a) the confined space has ventilation equipment—
 - (i) fitted with an alarm system that can be activated automatically, be audible or visible to any person in the confined space in the event that the equipment fails; and
 - (ii) monitored by qualified employee; and
- (b) in the event of failure of the ventilation equipment, there is sufficient time for the person to escape from the confined space before—
 - (i) exposure to or the concentration of a hazardous substance in the confined space exceeds the value, level or percentage prescribed in regulation 73(1) (b); and
 - (ii) the percentage of oxygen in the atmosphere ceases to meet the requirements of regulation 73 (1) (c).

(4) The employee referred to in subregulation (3) (a) (ii) shall activate an alarm in the event of faulty operation of the ventilation equipment.

PART VI—SAFETY APPLIANCES, EQUIPMENT, MATERIALS,
DEVICES AND CLOTHING

76. Restricted areas.

(1) All facility areas shall constitute restricted areas, the boundaries of which shall be clearly defined by the licensee as specified in regulation 77.

(2) The licensee shall ensure that all restricted areas have clearly established security measures to—

- (a) identify which facility employees are authorised to have access;

- (b) determine which persons other than the facility employees are authorised to have access;
 - (c) determine the conditions under which the access may take place;
 - (d) define the extent of any restricted area;
 - (e) define the times when access restrictions apply;
 - (f) clearly mark all restricted areas and indicate that access to the area is restricted and that unauthorised presence within the area constitutes a breach of security;
 - (g) control the entry, parking, loading and unloading of vehicles within the restricted area; and
 - (h) control unaccompanied baggage or personal effects within the restricted area.
- (3) The licensee shall ensure that—
- (a) only persons authorised by the person-in-charge of the facility are admitted into the restricted areas in appropriate personal protection equipment;
 - (b) all persons on the facility or vessel participating in midstream operations are given sufficient information about rules applicable to stays on facilities or vessels, including training and practice in dealing with emergency situations;
 - (c) all persons staying on facilities or vessels involved in midstream operations are advised to exercise caution with regard to anything or item that may cause fire or any other accidents or incidents; and

- (d) a list is kept at all times of every person staying on or being on the way to or from facilities.

(4) The licensee shall consider any other conditions aimed at maintaining the integrity of the restricted areas.

77. Erection of fences.

(1) The licensee shall ensure that adequate and secure boundary fencing is provided around a restricted area, tank farms and products off take facilities, and access to these areas is through a recognised entrance that is controlled to prevent the entry of unauthorised persons and vehicles.

(2) All vehicles shall be confined to approved routes within the facility area except with regard to special cases where specific vehicles are authorised by the person-in-charge to deviate from the approved routes.

78. Equipment identification within the facility.

(1) The licensee shall ensure that each stationary tank or vessel containing flammable, corrosive or poisonous substances is identified by legible letter, number, name or a combination of these.

(2) The licensee shall ensure that piping within the facility containing flammable, corrosive or poisonous liquids or gases are identified to indicate their contents and purpose when identification is practical and the correct operation of the valves of the line is essential to the safety of employees.

(3) The identification of the piping under this regulation shall be by name or color placed on the lines or on the valves in the lines and shall be legible from the place at which the valves are operated, where practicable.

(4) The requirement under subregulation (3) does not prohibit identification by the use of both name and a color.

(5) Equipment identifications in a facility shall be maintained so as to be legible in accordance with standards approved by the Authority and best petroleum industry practices.

79. Safety appliances, equipment, material, device and clothing.

(1) The licensee shall ensure that any person engaging in any midstream operation or visiting a facility and is likely to be exposed to a hazard uses protection equipment in accordance with these Regulations and the Occupational Safety and Health Act, 2006.

(2) Protection equipment referred to under subregulation (1) shall—

- (a) be designed to protect the person from any incident, hazard or accident;
- (b) not in itself create a hazard;
- (c) be maintained, inspected and tested by a competent person; and
- (d) be maintained in a clean and sanitary condition by a competent person.

(3) The licensee shall ensure that an employee or any person exposed to or likely to be exposed or who comes into contact or likely to come into contact with moving vehicles during his or her work or while at a facility, shall wear a high-visibility vest or other high-visibility clothing.

80. Head protection.

The licensee shall ensure that a person who enters a facility or is engaged in midstream operations wears approved safety headwear when engaging in the midstream operation or visiting a place where there is a risk of exposure to falling objects.

81. Eye and face protection.

(1) The licensee shall provide eye or face protectors that meet standards approved by the Authority and best petroleum industry practices to employees exposed to or are likely to be exposed to risk of injury to eyes, face, ears or front of the neck.

(2) The licensee shall provide quick-operating automatic water showers for instant use in the vicinity of caustic vessels and pumps or other appropriate accessible places.

(3) The licensee shall provide eye-wash bottles and automatic fountains in strategic and conspicuous locations in a facility.

(4) The quick-operating automatic water showers under subregulation (1) shall be tested daily.

82. Protective footwear and hand wear.

(1) The licensee shall provide protective footwear and hand wear that meets standards approved by the Authority and best petroleum industry practices to an employee who is exposed to or is likely to be exposed to the risk of hand or foot injury or electric shock.

(2) The licensee shall provide non-slip footwear to an employee or person having access to a facility where the employee or visitor is exposed to or is likely to be exposed to the risk of slipping.

83. Respiratory protection.

(1) Subject to subregulation (4), the licensee shall provide a respiratory protective device where an employee or person having access to a facility is exposed to or is likely to be exposed to the risk of an airborne hazardous substance or an oxygen deficient atmosphere in the work place or the facility.

(2) The respiratory protective device referred to in subsection (1) shall be selected, fitted, cared for, used and maintained in accordance with standards approved by the Authority and best petroleum industry practices.

(3) Where air is provided for the purpose of a respiratory protective device referred to in subregulation (1)—

- (a) the air shall meet the standards approved by the Authority, best petroleum industry practices, and standards set out in regulations made under the National Environment Act relating to air quality; and

- (b) the system that supplies air within the facility or workplace shall be constructed, tested, operated and maintained in accordance with standards approved by the Authority and best petroleum industry practices.

(4) Where there is a likelihood of exposure to hydrogen sulphide gas or combustible gases at a facility, the licensee shall provide at a readily accessible location-

- (a) at the drill floor, at least one self-contained positive pressure breathing device for each employee working at the hydro-treating unit or an air manifold equipped with a face mask for each employee;
- (b) at least two portable hydrogen sulphide gas detectors; and
- (c) at least two portable combustible gas detectors.

(5) A person required to use a respiratory protective device shall not have hair that interferes with the functioning of the breathing device.

(6) Where living quarters are located adjacent to a facility, at least four self-contained positive pressure breathing devices shall be located in a readily accessible location.

84. Skin protection and special clothing.

(1) Where there is a likely hazard of injury or disease to or through the skin in a work place, the licensee shall provide to an employee or any person granted access to the work place—

- (a) a shield or screen;
- (b) a cream or barrier lotion to protect the skin; or
- (c) an appropriate body covering.

(2) The licensee shall provide suitable protective clothing, equipment and appliance to every person working in or having access to a facility or midstream operation.

(3) A person entering a facility or undertaking a midstream operation shall wear suitable protective clothing or device when engaged in any operation where the exposure of any part of his or her body to any substance is known or likely to be injurious to the skin.

(4) An employee who oils, greases or attends to moving machinery shall wear close fitting and close-fastened garments, which cannot easily get caught or become entangled in the machinery.

(5) Where an item of clothing of an employee or any person having access to a facility is soaked with flammable liquids or injurious chemicals, the employee or person having access to the facility shall change the clothing immediately.

(6) An employee or any other person having access to a facility shall not have long hair, wear dangling accessories, jewelry or other similar items that are likely to be hazardous to the safety or health of an employee or the person visiting the facility or in a work place unless the long hair, dangling accessories, jewelry or other similar items are tied, covered or otherwise secured to prevent the hazard.

85. Fall-protection systems.

(1) The licensee shall provide a fall-protection system to any person carrying out midstream operations from an unguarded structure that is—

- (a) more than 2.4 m above the nearest permanent safe level;
- (b) above any moving parts of machinery or any other surface or thing that could cause injury to an employee or any other person upon contact;
- (c) above an open hopper, vat or pit;
- (d) above water more than 1m deep; or
- (e) a ladder at a height of more than 2.4 m above the nearest permanent safe level where, due to the nature of the work, that person can use only one hand to hold onto the ladder.

(2) The components of a fall-protection system shall meet standards approved by the Authority and best petroleum industry practices.

(3) A fall-protection system that is used to arrest the fall of a person shall prevent that person from being subjected to a peak fall arrest force likely to cause injury from falling freely for more than 1.2 m.

86. Emergency escape device.

(1) Where practicable, an emergency escape device equipped with a braking mechanism to control the descent of persons using an emergency escape device shall be provided on an elevated part of a facility.

(2) The licensee shall put in place written working instructions for the use of the emergency escape device referred to in subregulation (1).

(3) The instructions referred to in subregulation (2) shall be kept in a conspicuous place on the facility.

(4) An emergency escape device referred to under this regulation shall be installed, inspected and maintained by a competent person.

87. Protection against drowning.

(1) The licensee shall provide the following at a workplace where there is a risk of drowning—

- (a) a life jacket or personal flotation device that meets standards approved by the Authority and best petroleum industry practices;
- (b) a safety net or a fall-protection system;
- (a) emergency equipment;
- (b) a competent person to operate all the emergency equipment;
- (c) if appropriate, a powered rescue boat held in readiness; and
- (d) written emergency procedures containing—

- (i) a full description of the procedures to be followed and the responsibilities of all persons granted access to the work place; and
- (ii) the location of every emergency equipment.

(2) Where a work place is at a wharf, dock, pier, quay or other similar structure, a ladder that extends at least two rungs below water level shall be installed on the face of the structure every 60 meters along its length.

88. Protection from extreme temperatures.

Where an employee or person having access to a facility is likely to be exposed to extreme temperatures and the exposure could result into hypothermia or hyperthermia, the licensee shall provide protection equipment suitable to protect the employee from the exposure.

89. Records of protection equipment.

(1) The licensee shall ensure that a record is kept of all protection equipment provided by the licensee and requiring maintenance and the record shall be kept for as long as the equipment is in use.

(2) The record referred to in subregulation (1) shall contain—

- (a) a description of the protection equipment and the date of its acquisition by the licensee;
- (b) the date and result of each inspection and test of the protection equipment;
- (c) the date and nature of any maintenance work performed on the protection equipment since its acquisition by the licensee;
- (d) the name of the competent person who performed the inspection, test, maintenance or repair of the protection equipment; and
- (e) any other relevant information.

90. Instructions and training.

The person-in-charge of a facility shall instruct every person at the work place who uses protection equipment in the use, operation and maintenance of the equipment.

91. Defective protection equipment.

(1) Where an employee finds a defect in protection equipment that may render the equipment unsafe for use, he or she shall report the defect to the person-in-charge as soon as possible.

(2) The person-in-charge shall mark or tag as unsafe and remove from service any protection equipment that has a defect that may render it unsafe for use.

(3) The licensee shall replace the defective equipment immediately.

PART VII—FIRE AND EXPLOSION PROTECTION IN FACILITIES AND
DURING MIDSTREAM OPERATIONS

General Requirements

92. Fire protection.

Fire protection and prevention practices within a facility or during midstream operations shall be governed by these Regulations, standards approved by the Authority, best petroleum industry practices and any other applicable law.

93. Fire-fighting equipment and systems for fire-fighting.

(1) A facility shall be equipped with sufficient fire-fighting equipment to efficiently combat near-fires and prevent escalation in case of fire.

(2) Installation of fixed fire-fighting installations shall be based on the risk assessment undertaken by the licensee.

(3) The licensee shall provide firefighter equipment to enable safe and effective fire- fighting to be carried out efficiently and that the equipment is kept on the installation and stored in a cautious and suitable manner ready for immediate use.

(4) The licensee shall ensure that every operational employee at a facility area receives instruction in the use of the firefighting equipment.

94. Manual fire-fighting equipment.

(1) The licensee shall ensure that a facility and installation has adequate equipment for manual firefighting capable of effectively minimising the consequences of a fire.

(2) The manual fire-fighting equipment shall be used in a simple and safe manner.

(3) The licensee shall ensure that it is possible to reach any fire or near fire on the facility or installation with at least two water jets from well separated outlets.

(4) All firefighting equipment shall be inspected and tested at appropriate intervals by an authorised officer or any other qualified person appointed by the Authority for that purpose.

(5) The authorised officer or any other qualified person referred to in subregulation (4) shall indicate on the equipment the last date of inspection and shall enter and sign the results of the inspection in a log book specially kept for that purpose.

95. Firefighter equipment.

The licensee shall ensure that—

- (a) there is firefighter equipment that meet standards approved by the Authority and best petroleum industry practices to enable safe and effective fire- fighting to be carried out;
- (b) the firefighter equipment is kept on the installation; and
- (c) the fire fighter equipment is stored in a cautious and suitable manner ready for immediate use.

96. Fixed fire-fighting system.

The licensee shall ensure that—

- (a) the type, capacity and location of fire-fighting equipment is determined with reference to the dimensioning fire to ensure that fire-fighting can be carried out in a safe and effective manner;
- (b) fire-fighting equipment is manufactured according to standards approved by the Authority and best petroleum industry practices and adequately represents tested and documented solutions;
- (c) it is possible to carry out functional testing of fire-fighting equipment during normal operational conditions;
- (d) fixed fire-fighting system is installed in explosion-hazard areas and in areas with a major risk of fire;
- (e) fire-fighting equipment is clearly marked in accordance with standards approved by the Authority and best petroleum industry practices;
- (f) the system covers or provides for equipment containing significant amounts of petroleum and is designed to ensure that fire-fighting can be carried out quickly and efficiently at all times;
- (g) the system is capable of automatic activation by a signal from the fire detection system and in the event of gas detection, the system is automatically activated where this can result in lower explosion pressure;
- (h) in areas where gas is used as an extinguishing medium, notification systems that announce the release of gas is installed; and
- (i) manual activation of the fire-fighting systems is capable of activating the general alarm of the facility.

97. Fire pump systems.

(1) The licensee shall ensure that fire pump systems are designed with regard to capacity, efficiency, reliability, location and protection so as to enable effective fire-fighting of dimensioning fires in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall ensure that—

- (a) fire pumps are able to start automatically when there is a pressure drop in the fire main, and when a signal is given from the fire and gas detection system;
- (b) fire pumps are capable of starting manually from the control center and at the prime mover; and
- (c) the control room is at all times informed of the status of the fire pump systems.

98. Water supply.

(1) The licensee shall ensure that every facility has water supply to combat fires.

(2) A permanently manned facility shall have firewater supply from fire pumps or other independent supply to ensure sufficient capacity at all times, regardless of whether parts of the supply are out of service.

(3) The water system shall be designed such that a pressure stroke does not make the system or parts of it inoperative.

(4) Where water is supplied from fire pumps, the pumps shall start automatically in the event of a pressure drop in the fire main and upon confirmed fire detection.

(5) The fire pumps referred to under subregulation (4) shall be capable of being manually activated from the control room and at the propulsion unit.

(6) The propulsion units for fire pumps shall be equipped with two independent starting arrangements and the employees in charge shall ensure minimal automatic disconnection functions.

(7) Water piping shall be designed and placed to ensure a sufficient supply of water on the facility.

99. Technical requirements for the fire divisions.

(1) The licensee shall ensure that fire divisions can remain intact with regard to the thermal loads to which they may be subjected in the event of a dimensioning fire.

(2) Penetrations for ventilation ducts, piping, cables, beams, windows and doors in fire divisions, shall not reduce the strength of the fire divisions.

(3) Doors in fire divisions shall be of an automatic closing type.

Passive Fire Protection

100. Passive fire protection.

Where a passive fire protection unit is used at a facility or during a midstream operation, the unit shall be designed to provide relevant structures and equipment with sufficient fire resistance in regard to load capacity, integrity and isolation properties during a design fire load.

101. Passive fire protection of living quarters.

(1) The licensee shall ensure that living quarters are designed and protected to ensure that the functions they are designed for can be maintained during a dimensioning fire.

(2) The licensee shall ensure that the choice of materials and interior design of living quarters is decided in relation to the fire risk and is able to prevent fire from spreading.

102. Passive fire protection of other main areas.

(1) The main areas on installations shall be separated by fire divisions capable of resisting a dimensioning fire.

(2) The licensee shall ensure that spaces with key functions and equipment and a high fire risk, are separated from the surroundings by means of fire divisions.

(3) Fire divisions shall be designed to resist a dimensioning fire, to prevent fire from spreading to the adjacent areas or cause equipment in those areas to become inoperative for a minimum period of one hour.

(4) For purposes of this regulation, “main areas” means areas or building blocks in which major midstream operations common in nature are carried out.

Fire Safety

103. Fire and safety.

(1) The licensee shall—

- (a) ensure observance of fire and safety precautions within the restricted area;
- (b) provide adequate means designed to extinguish fire and to effectively control the spread of fire and explosions; and
- (c) provide a central fire station with suitable equipment and maintained by trained employees in putting out fire or explosion.

(2) When a fire or explosion occurs in a facility area or during a midstream operation, the person-in-charge of the fire station shall be informed immediately and steps shall be taken to extinguish the fire and control further explosions.

(3) The instructions to employees in case of fire shall be in writing and prominently displayed in a conspicuous place in the facility.

(4) The licensee shall place a warning notice prohibiting entry by an unauthorised person, smoking, use of naked lights and other likely hazard on the facility or during a midstream operation.

(5) The warning notice referred to under subregulation (4) shall be conspicuously displayed in the restricted areas and all areas within the facility and where a midstream operation is being undertaken.

(6) The person-in-charge shall ensure that a person does not smoke or ignite a fire or flame in a facility area or during a midstream operation except in a place set aside for the purpose.

(7) A person shall not possess or light a match, mechanical lighter, lamp, light, ignitable matter or similar device in a facility area or during a midstream operation except with the permission of the person-in-charge.

104. Fire and explosions.

(1) The licensee shall put in place measures to control fire and explosion hazards generated by process operations including accidental release of syngas containing carbon monoxide, hydrogen, oxygen, methanol or other gases.

(2) The measures referred to under subregulation (1) shall include—

- (a) the design, construction and operation of a facility according to standards approved by the Authority and best petroleum industry practices for the prevention and control of fire and explosion hazards;
- (b) provision for segregation of process, storage, utility and safe areas;
- (c) provision of safety distances derived from specific safety analyses for the facility and standards approved by the Authority and best petroleum industry practices for fire safety;
- (d) provision of early release detection, including pressure monitoring of gas, liquid, conveyance systems, smoke and heat detection for fires;

- (e) evaluation of potential vapour accumulation in storage tanks and implementation of prevention and control techniques;
- (f) avoidance of potential sources of ignition by configuring the layout of piping to avoid spills over high temperature piping, equipment or rotating machines;
- (g) provision of passive fire protection measures within the modelled fire zone, capable of withstanding the fire temperature for a time sufficient to allow the licensee implement an appropriate fire mitigation strategy;
- (h) limitation of the areas potentially likely to be affected by accidental releases by-
 - (i) defining fire zones equipped with a drainage system to collect and convey accidental releases of flammable liquids to a safe containment area;
 - (ii) including secondary containment of storage tanks, where applicable;
 - (iii) installing fire and blast partition walls in areas where appropriate separation distances cannot be achieved; and
 - (iv) designing the oily sewage system to avoid propagation of fire; and
- (i) any other measures the licensee may deem relevant.

105. Active smoke control.

(1) The licensee shall ensure that the ventilation system of a facility is designed to effectively control smoke from a dimensioning fire, to ensure that both evacuation and fire-fighting can take place in a cautious and effective manner.

(2) Living quarters shall be designed and protected to prevent penetration of smoke from a fire.

106. Fire and evacuation alarm.

(1) A living quarter shall be equipped with a system capable of giving warning to every person on the installation or facility of fire and evacuation.

(2) The system referred to in subregulation (1) shall have a high reliability and be capable of—

- (a) manual activation of fire alarm from the control room and if applicable, from other relevant positions; and
- (b) activating an evacuation alarm to perform from the control room.

107. Removal of fire hazard debris.

The licensee shall ensure that rubbish, debris or oil refuse that might constitute a fire hazard is removed in proper receptacles from the facility and safely disposed of in accordance with standards approved by the Authority and best petroleum industry practices.

108. Storage and handling of inflammable commodities.

Inflammable commodities shall be stored and handled in an efficient manner to minimise the risk of any fire or explosion.

109. Fire and gas detection system.

(1) A facility or midstream operation shall have a fire and gas detection system that ensures quick and reliable detection of near-fires, fires and gas leaks.

(2) The system referred to under subregulation (1) shall be able to perform the intended functions independently of other systems.

(3) The licensee shall ensure that, in the event of fire or gas detection, automatic actions are in place to limit the consequences of the fire or gas leak.

110. Escape exits.

(1) A facility shall, at the minimum, have one escape exit on each of the floors of a building.

(2) The escape exits referred to under subregulation (1) shall—

- (a) be free at all times;
- (b) have open doorways or swinging doors to provide the maximum possibility of escape;
- (c) have an unobstructed passage to the fire assembly point; and
- (d) be clearly marked.

(3) The escape exit doors shall—

- (a) be readily opened from the inside without a key and shall swing outward if located in an exterior wall;
- (b) not be locked to provide ready exit while the room is occupied;
- (c) be by fixed ladder, stairway, ramp, walkway, slide or slide pole or any other means consistent with standards approved by the Authority and best petroleum industry practices; and
- (d) be located closely to each other to provide reasonably safe alternative means of escape.

(4) A fence which is close to light oil or gas processing shall have gates opening outward.

(5) The gates of a facility shall be unlocked whenever the area within the enclosure is occupied.

(6) The licensee shall use any other means to ensure the safety of the employees and the facility or midstream operations.

111. Reporting of fire and explosion.

Where fire or explosion occurs within a facility or during a midstream operation, the licensee shall submit a written report to the Authority immediately but in any case not later than forty-eight hours of the occurrence.

112. Requirements relating to emergency preparedness.

(1) The licensee shall ensure that the formulation, implementation and maintenance of emergency preparedness is carried out in a controlled and organised manner.

(2) The emergency preparedness shall be integrated in all phases of midstream operations in accordance with the Act, these Regulations and the Occupational Safety and Health Act, 2006.

(3) The licensee shall provide instructions to be followed during an emergency and shall advise every employee of his or her functions and duties under the instructions.

113. Emergency preparedness.

(1) The licensee shall, in addition to the requirements under section 65 of the Act, prepare a strategy for emergency preparedness against incidents, hazards and accidents.

(2) The emergency preparedness strategy prepared in accordance with subregulation (1) shall be based on results from risk and emergency preparedness analyses carried out by the licensee.

(3) The licensee shall ensure that the emergency preparedness strategy is coordinated with the security agencies, health service providers and emergency service providers, to ensure that the chain of rescue for the ill or injured employees is coherent and professional.

(4) The licensee shall, in the formulation of emergency preparedness strategy, give priority to measures which prevent a hazard from developing into an incident or accident over measures which reduce the consequences of an incident or accident.

Emergency Plans

114. Duty to prepare, maintain and implement emergency plan

(1) The licensee shall prepare and maintain an emergency plan for a facility or midstream operation which shall provide for the following—

- (a) emergency procedures;
- (b) an effective response to an emergency including—
 - (i) evacuation procedures;
 - (ii) procedures for notifying emergency service organisations at the earliest opportunity;
 - (iii) medical treatment and assistance; and
 - (iv) procedures for effective communication between the person authorised by the licensee to coordinate the emergency response and all persons at the workplace;
- (c) testing of the emergency procedures, including the frequency of testing; and
- (d) information, training and instruction to employees in relation to implementing the emergency procedures.

(2) For the purposes of subregulation (1), the licensee shall consider all relevant matters, including—

- (a) the nature of operations being carried out at a facility;
- (b) the nature of the hazards at the facility or workplace;
- (c) the size and location of the facility or workplace; and
- (d) the number and composition of the employees and other persons at a facility.

(3) The licensee shall implement the emergency plan for the facility in the event of an emergency.

115. Emergency plan.

(1) The licensee shall prepare an emergency plan within six months from the date of grant of a licence or in the case of an existing midstream operation or facility, within six months from the date of commencement of these Regulations.

(2) The licensee shall prepare an emergency plan for a facility that—

- (a) addresses all health and safety consequences of a major incident or accident occurring;
- (b) includes all matters specified in Form 4 set out Schedule 1; and
- (c) provides for testing of emergency procedures, including the frequency of testing.

(3) The licensee shall, in consultation with the Authority and the Minister, ensure that an appropriate emergency plan is prepared and adequate for the purpose.

(4) In preparing an emergency plan, the licensee shall consult—

- (a) the Minister;
- (b) the Authority;
- (c) the local authority and local community where the midstream facility is located or midstream operation is carried on;
- (d) employees of the licensee, contractors and subcontractor;
- (e) the emergency service providers;
- (f) the department of occupational safety and health;
- (g) the National Environment Management Authority; and
- (h) any other relevant body or institution recommended by the Authority or the Minister.

(5) The licensee shall take into account recommendations made by stakeholders under subregulation (4) in preparing the emergency plan.

(6) The licensee shall—

(a) keep a copy of the plan at the facility; and

(b) provide a copy of the plan to—

(i) the Authority;

(ii) the stakeholders and emergency service organisations consulted under subregulation (4); and

(iii) any other relevant stakeholders as the Authority may determine.

(7) The licensee shall immediately implement the emergency plan where—

(a) a major incident or accident occurs at a facility or during a midstream operation; or

(b) an incident occurs that could reasonably be expected to lead to a major incident or accident.

(8) The licensee shall notify the relevant stakeholders and emergency service organisations consulted under subregulation (4) of the occurrence of an incident or accident.

116. Information for local community.

(1) The licensee shall provide the following information to the local community and the local authority where the facility is located or where a midstream operation is being undertaken—

(a) the name and location of the facility or midstream operation;

(b) the name, position and contact details of a contact person from whom information may be obtained;

- (c) a general description of the major hazards posed by the operation of a facility;
- (d) the means by which the local community will be informed of a major incident or accident occurring; and
- (e) the actions, as specified in the emergency plan, that members of the local community should take if a major incident or accident occurs.

(2) The licensee shall ensure that the information provided under subregulation (1) is-

- (a) set out and expressed in a way that is readily accessible and understandable to persons who are not familiar with the facility and its operations;
- (b) reviewed and as necessary revised if a modification is made to the facility; and
- (c) the actions, as specified in the emergency plan, that members of the local community should take if a major incident or accident occurs.

117. Review and testing of emergency plans.

(1) The licensee who has prepared an emergency plan in accordance with these Regulations shall, every three years –

- (a) review and where necessary revise the emergency plan; and
- (b) test the plan and take reasonable arrangement for the Authority to participate in the testing of the plan.

(2) Notwithstanding subregulation (1), the Authority may require the licensee to review the emergency plan before the lapse of the three years.

(3) The licensee shall, when reviewing the emergency plan, take into account changes that have occurred in the facility to which the plan relates, new technical knowledge, and knowledge relating to the response to major incidents, hazards or accidents.

(4) The local authority may reach agreement with the licensee and the emergency service providers on how the emergency plan may be tested.

118. Communication during emergency situations.

The licensee shall ensure that the means of communication during an emergency are unambiguous and effectively transmit information by means of light, sound, writing, signs and symbols as stipulated in an emergency plan.

119. System for transference of information.

(1) The licensee and the person-in-charge shall ensure that relevant information to the formulation, implementation and maintenance of emergency preparedness for a facility or midstream operations in question is collected, organised, analysed and used.

(2) Emergency preparedness measures implemented when an incident or accident occurs, shall be documented to assist in the investigation of the incident or accident.

120. Monitoring of emergency preparedness.

(1) The licensee shall monitor the implementation of the emergency plan to ensure that all requirements relating to emergency preparedness have been complied with.

(2) The monitoring of the emergency preparedness of a midstream operation or facility concerned shall be carried out systematically and shall be integrated in the total activity programme of the facility or midstream operations and any deviation shall be identified and rectified immediately but in any case not later than seven days from the date the deviation is identified.

121. Emergency alerts and notification.

(1) The licensee shall carry out emergency alert to ensure effective mobilisation of relevant emergency preparedness resources.

(2) The licensee shall alert the Authority and any other relevant Government ministry, department or agency immediately, according to detailed instructions issued by the Authority or prescribed in any other applicable law.

122. Rescue measures.

(1) The licensee shall put in place rescue measures which ensures that—

- (a) missing persons can be found; and
- (b) injured persons are given necessary first aid and are brought to a safe area for treatment.

(2) Measures to rescue persons shall be established and based on injury considerations, including hypothermia.

123. Evacuation.

(1) The licensee shall put in place evacuation measures that shall be adhered to in an emergency.

(2) The evacuation measures referred to under subregulation (1) shall be carried out in a safe and organised manner to ensure that all employees are brought to a safe area.

124. Normalisation measures.

(1) The licensee shall put in place normalisation measures to ensure that—

- (a) employees are taken for investigation, treatment and care;
- (b) the environment is restored to as near as possible to its original condition; and
- (c) damage to the facility is stabilised.

(2) The Authority shall be notified before the normalisation process is terminated by the licensee.

125. Emergency preparedness cooperation.

(1) The licensee shall cooperate with other licensees involved in midstream operations to ensure necessary emergency preparedness in the areas of health, safety and the environment.

(2) Where special circumstances warrant, the Authority may issue and stipulate conditions for the cooperation referred to under subregulation (1).

(3) A licensee with neighboring operations and facilities within the same geographic area that also handle hazardous substances, shall actively contribute to exchange information so as to ensure that the people affected by the midstream operations and facilities have a full overview at all times of the amounts of hazardous substances being handled.

(4) The licensee shall actively contribute to coordination measures so that safety, including emergency preparedness is guaranteed and implemented in accordance with the emergency plan.

(5) Where there is an incident, hazard or accident, the Authority may-

(a) order that other licensees involved in midstream operations make the necessary emergency preparedness resources available at the expense of the licensee of the affected midstream operation or facility; and

(b) at the expense of the licensee of the affected facility or midstream operations, implement measures to acquire the necessary additional resources in any other manner that the Authority deems necessary.

PART IX—SAFETY REQUIREMENTS FOR PLANTS AND EQUIPMENT.

126. Machinery.

(1) The licensee shall ensure that machinery and equipment are operated by a qualified and competent person.

(2) The person referred to in subregulation (1) shall, before start of any machinery or equipment, ensure that all guards are in place and that a person is not endangered by the machinery being put in motion.

(3) The licensee shall ensure that—

- (a) every bolt, rope or chain used for the transmission of power not operated from catheads, all gear, sprockets, clutches, cranks, connecting rods and all exposed and moving parts of machinery are enclosed, screened or railed off to prevent any employee from coming into contact with them;
- (b) pinch points of machines and the cutting edge of power driven tools are, where practicable, guarded to prevent accidental contact by the employee;
- (c) every abrasive wheel is guarded in such a manner as to restrain flying parts and to limit the dispersal of dust and particles produced by grinding;
- (d) where power-driven machinery is used, each machine has a stopping device located within easy reach of the employee operating the machinery;
- (e) every machine which is not individually motor driven is equipped with a clutch or other adequate means of stopping the machine; and
- (f) starting devices are arranged to prevent an incident, hazard or accident.

(4) The licensee shall ensure that a boiler and unfired pressure vessel used in connection with midstream operations is designed, constructed, tested, installed, inspected and maintained in accordance with the standards approved by the Authority and best petroleum industry practices.

(5) Every part of machinery whether situated in an engine house or not shall be protected in accordance with best petroleum industry practices.

127. Maintenance and repair of machinery.

(1) Where there is a likelihood of danger from contact with moving parts of machinery, an employee or competent person shall not clean, service or otherwise maintain machinery while that machinery is in motion.

(2) Machinery or any piece of machinery shall be shut down before it is repaired and shall be disconnected from power and the control device shall be locked or made inoperative.

(3) The licensee shall ensure that machinery shutdown under subregulation (2) is not restarted without instructions from the employee or competent person who last used the machinery.

(4) An employee or competent person effecting the repair on the machinery shall notify the person-in-charge when the repair has been completed.

128. Training inexperienced employees in use of machinery.

An employee or competent person shall not be allowed to work with a machinery or in a process, unless he or she has been fully instructed as to the danger likely to arise from the work and—

- (a) has observed the necessary precautions;
- (b) has received sufficient on-the-job training on the machinery or in the process; or

- (c) is under supervision of a person who has excellent knowledge and experience of the machinery or process and who is responsible for the safety of the trainee.

129. Human machine interface and information presentation.

(1) The licensee shall ensure that monitor-based equipment and other technical equipment for monitoring, controlling and running machines, installations or production processes are able to reduce safety risks.

(2) Information transmitters and operating devices shall be designed, placed and grouped in a simple understandable language and visual aid to allow simple and quick receipt of the information and implementation of necessary actions.

(3) The information systems shall be designed for both normal and emergency situations.

(4) The licensee shall ensure that, in the event of an incident, hazard, non-conformity or fault in system of significance to safety, an alarm is activated that clearly differs from other alarm notifications.

130. Operation of mobile equipment.

The licensee shall ensure that—

- (a) all powered mobile equipment is maintained in good running order and is operated in a manner that prevents undue danger to human life or harm to the environment;
- (b) where mobile equipment is operated during hours of darkness, adequate light is provided and used;
- (c) where mobile equipment is used in locations or under conditions where there is a danger of falling objects, an overhead guard with shelter is provided to protect the driver from over-head hazards and inclement weather;

- (d) a cab or similar means of enclosure on a mobile equipment have adequate means of ventilation;
- (e) a guard is installed to protect the driver of the equipment where the mobile equipment uses hosting or hauling ropes;
- (f) only a competent driver is permitted to operate the mobile equipment; and
- (g) an employee designated by the licensee to drive the mobile equipment operates the equipment in a safe manner and shall not proceed with the work where his or her vision is obstructed or without a signal from a designated signal-man.

131. Use of welding plants.

A welding plant shall not be used in a facility without the approval of the person-in-charge.

132. Internal combustion engine exhaust.

An internal combustion engine installed on a facility shall be spark proof and exhaust pipes shall be insulated, cooled or constructed to preclude the ignition of flammable vapours.

133. Safety requirement relating to plants, tools and equipment.

- (1) The license shall ensure that—
 - (a) machinery, tools or other equipment are safely constructed or placed;
 - (b) all hand tools are kept in a good state of repair;
 - (c) scaffolding, stage, walkway, working platform, stairway and ladder, whether temporary or permanent, are constructed and maintained in safe condition; and
 - (d) buildings, structures, machinery and equipment are of sufficient size and strength to withstand imposed stresses and to safely perform the functions for which they are to be used.

(2) An authorised officer may at any time inspect the facility, building, structure, machinery and equipment.

(3) The licensee shall correct, repair, replace or otherwise make safe defective equipment or unsafe conditions identified during inspection.

Additional Safety Requirements for Pipelines

134. Arrangements for incidents and emergencies for pipeline systems.

(1) A pipeline licensee shall ensure that fluids are not conveyed in a pipeline system unless adequate arrangements have been made for dealing with—

- (a) accidental loss of fluid from the pipeline;
- (b) discovery of a defect in or damage to the pipeline or other emergency affecting the pipeline; or
- (c) failure of the pipeline or crude oil heating system.

(2) The licensee shall ensure that adequate arrangements are in place to deal with incidents, hazards, accidents or emergency relating to the pipeline system.

135. Condition control and condition evaluation.

(1) The licensee shall, after the installation and commencement of operation of a pipeline system, carry out an annual inspection of its condition, except where defects are discovered that call for shorter intervals of inspection.

(2) Condition control shall be based on the most suitable methods available and the choice of method shall be based on the type of pipeline system and its location.

(3) The licensee shall consider and regularly carry out internal inspection with the view to detecting any possible corrosion and mechanical failure for pipeline systems where possible damage may entail consequences to safety or lead to significant economic loss.

(4) The licensee shall, based on the results of the inspection of condition, carry out an annual evaluation of the condition of the pipeline system and prepare a condition report for each individual pipeline system.

136. Safety systems.

(1) The licensee shall ensure that fluid is not conveyed in a pipeline unless it has been provided with necessary safety systems to protect people from risk to their health and safety.

(2) The pipeline system shall have suitable safety systems to protect people from risk including—

- (a) emergency shut-down valves and shut-off valves which operate on demand or fail safe in the closed position to minimise loss of containment of the pipeline inventory;
- (b) devices to prevent the safe operating limits being exceeded, including pressure relief valves, block valves to limit the inventory released and shall be spaced according to the outcome of safety evaluations and maintenance considerations; and
- (c) control or monitoring equipment including flow detectors and pressure monitors, which function properly in order to protect the pipeline or to secure its safe operation.

(3) Where a pipeline system is designed to allow for passage of equipment for inspection, maintenance or testing the pipeline, the emergency shut-down valve shall be designed to allow for the passage of such equipment.

(4) An emergency shutdown valve shall be held open by an electrical, hydraulic or other signal to the mechanism for actuating the valve on the failure of which the valve shall automatically close.

(5) An emergency shut-down valve shall be capable of being closed manually by an employee or competent person and automatically by the operation of the emergency shut-down system of the pipeline to which the pipeline is connected; or while relevant work of examination or maintenance is being carried out, by one of those means.

(6) An emergency shut-down valve and its actuating mechanism shall, so far as reasonably practicable, be protected from damage arising from fire, explosion or impact.

(7) An emergency shut-down valve shall be maintained in good working condition.

(8) Where an emergency shut-down valve has operated to block the flow of fluid within the pipeline, it shall not be reopened to permit the flow of fluid until steps have been taken to ensure that it is safe to reopen the flow of fluid.

137. Pipeline warning signs.

(1) The licensee shall install pipeline warning signs in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall install pipeline warning signs—

- (a) at each side of the crossing, where a pipeline crosses a highway, road, railway or watercourse;
- (b) within the land acquired for the pipeline and facing the highway, road, railway or watercourse;
- (c) if the pipeline right of way adjoins the right of way of a highway, road or railway, on the common boundary of the rights of way but not within the right of way of the highway, road or railway; and

- (d) if the pipeline is—
 - (i) located in a ditch or unpaved area, in the right of way of a highway or road; or
 - (ii) transmitting Highest Vapour Pressure (HVP) product, the warning sign shall clearly indicate the name of the Highest Vapour Pressure (HVP) product that may be conveyed at intervals that will clearly and continuously mark the location of the pipeline.

(3) The licensee shall install warning signs as required under subregulation (1)—

- (a) prior to the commencement of operation of the pipeline system;
- (b) in accordance with standards approved by the Authority and best petroleum industry practices provided that the format is consistent for the entire pipeline that is the subject of the licence;
- (c) no more than 0.3 meters from a fence line, where applicable;
- (d) as close to the centerline of the pipeline as possible without risking striking the pipeline;
- (e) so that each sign is not obscured by a bush or any other thing; and
- (f) as independent, free-standing structures which shall not be attached to any other structures except fencing surrounding the licensee's facilities.

(4) The licensee shall, while carrying out surface restoration operations, install permanent warning signs in accordance with standards approved by the Authority and best petroleum industry

practices as soon as surface restoration operations are completed.

(5) The licensee shall, regardless of the operational status of the pipeline, maintain pipeline warning signs and shall replace any pipeline warning sign that becomes defaced, worn out or illegible or that is missing or has been destroyed.

(6) Where a pipeline or part of a pipeline has been removed, any existing warning signs in the area from which the pipeline or part of the pipeline has been removed shall also be removed.

138. Group pipeline signs.

(1) The licensee may install group pipeline warning signs for a group of pipelines in the same right of way, instead of a separate sign for each pipeline, where—

- (a) the licensee is the same for each pipeline in the group;
- (b) each pipeline in the group conveys the same petroleum commodity or petroleum product;
- (c) the warning sign, in accordance with standards approved by the Authority and best petroleum industry practices, identifies that there are other pipelines close by; and
- (d) none of the pipelines in the group convey High Vapour Pressure product or natural gas containing more than one percent hydrogen sulphide.

(2) The warning signs for a group of pipelines shall be placed on both sides of the right of way containing the group of pipelines and shall not be more than sixty metres apart.

139. Identification of pipeline installations.

(1) The licensee shall have a clear coding and marking of equipment including valves, meters, electrical installations, heating facilities and pipeline sections.

(2) The licensee shall install a large facility identification sign at the entrance to a gas compressor station, heating stations, oil pumping station and pressure regulating stations, showing the name of the facility, location of the facility, the name of the licensee, an emergency telephone number and a warning symbol in accordance with standards approved by the Authority and best petroleum industry practices.

(3) Warning symbols identifying the hazard at a pipeline installation referred to in subregulation (2) shall be limited to—

- (a) category I, flammable gas or liquid; or
- (b) category II, poisonous gas or liquid.

(4) Warning symbols that do not conform to the requirements set out in this regulation, standards approved by the Authority and best petroleum industry practices shall not be used without the approval of the Authority.

140. Safe operating practices for pipeline systems.

(1) Terminal and depot control room wherever provided in a pipeline system shall be manned on continuous basis during operations and where possible, in emergencies.

(2) The licensee shall develop site-specific operating standards providing for the procedures to be followed during operations.

(3) The procedures referred to under subregulation (2) shall be made with the involvement of the operations and safety team.

(4) The procedures developed by the licensee under subregulation (2) shall be periodically reviewed, updated and records maintained whenever any changes or modifications to the facilities are made in accordance with the management of change procedure.

(5) The critical operating steps based on standard operating procedures shall, where applicable, be displayed on the board near the location of the safety system.

(6) The licensee shall provide fundamentally safe and very high frequency handsets to all operating employees working in critical areas of the pipeline system.

(7) The licensee shall prepare a check list for verifying safety system and equipment and the check records in safe custody.

(8) Suitable interlocks shall be provided for tripping, alarm or remote operated shut off valve operation based on the events including low level, high level, high pressure and low pressure.

Additional Safety Requirements for Tank Vehicles

141. Prohibition of smoking and use of naked light.

(1) The licensee shall ensure that smoking and the use of naked lights is not permitted within nineteen meters of a tank vehicle.

(2) The tank vehicle shall not be halted within thirty seven meters of a fire or open flame.

(3) Matches, mechanical cigarette lighters or other means of making fire shall not be carried either on the tank vehicle or by any person on the vehicle.

(4) A fire extinguisher of the type consistent with standards approved by the Authority and best petroleum industry practices shall be carried in an easily accessible position on every vehicle transmitting bulk petroleum commodities or petroleum products.

(5) All fire extinguishers shall be of the type and quality that meets standards approved by the Authority and best petroleum industry practices, checked and fitted with a quick-release device.

(6) Repairs involving the use of naked lights shall not be carried out unless the tank is emptied.

142. Tank vehicle to be kept closed.

(1) Except during the filling or discharging into the tank, the filling pipe, manhole and dipping pipe of a tank vehicle shall at all times be kept securely closed.

(2) The fuel tank of a mechanically propelled vehicle shall not be filled or replenished with Class A petroleum direct from a vehicle carrying Class A petroleum in bulk.

143. Prohibition of parking on the highway.

(1) A tank vehicle carrying bulk petroleum commodities or petroleum products shall not be parked on the highway.

(2) Where a mechanical breakdown or other cause prevents a vehicle from leaving a highway, the driver shall remain with the vehicle and take all reasonable precautions to prevent a fire or other accident; and in particular, he or she shall ensure that—

- (a) two collapsible metal notice boards each bearing the word “DANGER” in red reflector glass are placed in the centre of the road, forty six meters ahead of, and forty six metres behind, the parked tank vehicle;
- (b) one red lamp is placed beside each of the boards referred to in paragraph (a) during the hours of darkness; and
- (c) the fire extinguishers on the vehicle are removed, if necessary, and placed where they may be readily available if the vehicle catches fire.

(3) The mechanical breakdown referred to in subregulation (2) shall be reported to the licensee and the police as soon as practicable but in any case not later than six hours from the time of the breakdown.

144. Loading and unloading of tank vehicle.

(1) When loading or unloading a tank vehicle—

- (a) adequate earthing connection from the vehicle shall be made by bonded hose or other means before commencing the operations;
- (b) the earthing connection shall not be disconnected until the loading or unloading operation ceases; and

- (c) the engine of the vehicle shall be stopped before making the earth connections and shall not be restarted until the earth connections are disconnected.

(2) This regulation does not apply where the vehicle is provided with self-pumping equipment driven by a power take-off or a separate power unit consistent with standards approved by the Authority and best petroleum industry practices.

145. Prohibition of loading and unloading outside licensed storage facility.

(1) This regulation shall apply in relation to the transfer of bulk petroleum commodities or petroleum products from the tank of a tank vehicle into a storage facility.

(2) Unloading of petroleum commodities or petroleum products from any tank vehicle shall not take place other than into a licensed midstream storage facility.

(3) For the purpose of distinguishing storage tanks on the same premises, every tank shall be marked with a particular number, and the type and grade of petroleum commodities or petroleum products contained in the tank shall be marked on it, in a manner that the markings cannot be readily altered or destroyed.

(4) Every dipstick, not being one permanently fixed to a storage tank and any other device used for ascertaining the quantity of the petroleum for the time being contained in a storage tank, shall in the same manner be marked with the same number, the type and grade of petroleum commodities or petroleum products as that of the storage tank in connection with which it is used.

(5) Where the method of filling a storage tank is by means of a pipe leading from the tank vehicle to a filling point not situated on or immediately adjacent to the tank vehicle, the pipe shall be clearly marked on or near the filling point, with the same number, type and grade of petroleum commodities or petroleum products as that of the tank.

(6) The person-in-charge of a midstream storage tank shall ensure that no petroleum commodity or petroleum product overflows from the storage tank or escapes at the filling point and from the tank, and shall not permit delivery into the tank to begin—

- (a) unless the midstream storage tank has immediately been tested before with a dipstick or other suitable device and the test has shown that the quantity of petroleum proposed to be delivered can safely be received by that tank;
- (b) where the method of filling the tank is that referred to in subregulation (5), until the person-in-charge of the storage tank has taken all reasonable steps to ensure that—
 - (i) the connecting hose through which the petroleum commodity or petroleum product will be delivered is properly and securely connected to the filling point of the storage tank;
 - (ii) all pipes through which the petroleum commodity or petroleum product will pass between the filling point and the storage tank are properly connected to each other or as the case may be, to the tank and are otherwise in good order; and
 - (iii) in any other case until he or she has taken all reasonable steps to ensure that the connecting hose is properly and securely connected to the filling point of the storage tank; and
- (c) where there is a dipping opening in the storage tank, until the dipping opening has been securely closed, except in a case where the dip and fill pipe are combined.

(7) Proper records shall be kept of all deliveries into each storage tank.

(8) The person-in-charge of the delivery shall keep a constant watch of the delivery during the time of delivery into the midstream storage tank.

(9) During the time of delivery from a tank vehicle, the person attending to the vehicle shall keep constant watch on the tank of the vehicle from which petroleum commodities or petroleum products are being delivered.

146. Condition of premises where tank vehicle is kept.

(1) The premises in which a tank vehicle is usually kept shall be maintained in a clean condition, free from grass, weeds and all flammable material of any description.

(2) The licensee shall ensure that fire extinguishers are kept on the premises referred to under subregulation (1) and maintained at all times in readiness for immediate use.

(3) Notices prohibiting smoking, the lighting of matches and the carrying of unprotected lights shall be fixed in a prominent position in and about the premises.

(4) The licensee shall ensure that—

- (a) the premises where the tank vehicle is kept are secured in such a manner as to prevent the unlawful entry of any person; and
- (b) the vehicle, when parked on the premises is protected against interference by an unauthorised person.

PART X—MEDICAL FACILITIES AND FIRST AID SERVICES

147. Special requirements for health care and health services.

(1) The licensee shall ensure that—

- (a) a facility has occupational health service which is adapted to the risk factor of the facility; and
- (b) employees receive the necessary treatment and care in the event of an incident or accident.

(2) The preparedness relating to health care and health services shall be integrated in the overall emergency preparedness of the midstream operations of the licensee.

(3) The licensee shall ensure that where applicable, a medical practitioner is available within the facility at all times.

(4) Subject to the consent of the employee, the medical practitioner referred to under subregulation (3) shall notify the licensee of any occupational disease or injury and the licensee shall immediately and in any case not later than twenty four hours, provide the necessary medical care to the employee.

(5) The licensee shall coordinate the preparedness of the operations relating to health care and health services with the Ministry responsible for health.

(6) The licensee shall in addition comply with the Occupational Safety and Health Act, 2006.

(7) A person who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding two thousand currency points.

148. Medical examinations for employees.

(1) The licensee shall ensure that employees—

- (a) are offered regular medical examinations by a medical professional with training and experience in occupational health, at no cost to the employee, to establish any effects arising from occupational hazards; and
- (b) undertake medical examination before they are assigned work that is likely to have health risks, so that preventive measures can be implemented.

(2) An employee who has undergone medical examination under subregulation (1) shall have access to the results of the examination and an explanation of the results.

(3) An employee who has been subjected to hazardous exposure in his or her employment by the licensee, shall be offered special health examinations at the cost of the licensee, so that any necessary corrective measures can be implemented.

149. Medical facilities and first aid services.

(1) The licensee shall undertake first aid needs assessment and revise it regularly whenever there is change in the processes.

(2) The licensee shall provide adequate first aid and emergency medical facilities to deal with incidents, accidents or hazards likely to occur in a facility or during a midstream operation.

(3) The licensee shall provide a first aid box or cupboard and affix a notice in every work-room including the name and contact of a person-in-charge of the first aid who shall be readily available during working hours.

(4) In addition to the requirements under subregulations (2) and (3), the licensee shall maintain a portable oxygen inhalation rescue apparatus in a facility or during midstream operations.

150. Posting of information.

The licensee shall post and keep posted in a conspicuous place in a work place—

- (a) information regarding first aid to be rendered for any injury, occupational disease or illness likely to be sustained or contracted in the work place;
- (b) information regarding the location of first aid attendants, first aid stations and first aid rooms; and
- (c) at every telephone, an up to date list of telephone numbers for use in emergencies.

151. Ambulance stations.

(1) The licensee shall maintain an ambulance station at a facility and during midstream operations.

(2) The ambulance station shall be equipped with the first aid kit as provided for under these Regulations and shall include resuscitation apparatus and other special equipment.

152. Training of rescue teams and persons in first aid.

The licensee shall give continuous training to employees in the use, maintenance of rescue and use of resuscitation apparatus and first aid equipment.

PART XI—HANDLING, INVESTIGATION, RECORDING AND REPORTING OF
INCIDENT, HAZARD AND ACCIDENT

153. Handling incidents, hazards and accidents.

(1) The licensee shall ensure that necessary measures are taken as soon as possible upon and during the occurrence of an incident, hazard or accident situations so that—

- (a) the right notification is given immediately, if requested or required under any applicable law; and
- (b) hazardous situations do not develop into an incident or accident.

(2) The licensee shall ensure that, in the event of an incident, hazard or accident, response measures are implemented to—

- (a) prevent injury or loss of life;
- (b) minimise pollution;
- (c) ensure that employees can be rescued and evacuated quickly and efficiently; and
- (d) ensure that the condition can be normalised when the development of an incident, hazard or accident situation has been stopped including through monitoring and clean-up of the pollution, restoring the environment as near as possible to its state before the incident, accident or hazard situation.

(3) The licensee shall set criteria for normalisation of the working environment and external environment in accordance with these Regulations and any other applicable law.

(4) The licensee shall systematically investigate an incident, hazard or accident to find out its causes and report to the Authority within seven days after the completion of the investigation.

154. Recording of incidents, hazards and accidents.

(1) The person-in-charge shall record all injury and disease caused by the work or conditions at the work place.

(2) The person-in-charge shall record incidents, hazards and accidents at a work place which shall form part of the monthly incident report to the Authority.

(3) The record referred to under subregulation (2) shall, where it relates to an employee, be confidential and shall not contain medical information of a personal nature without the consent of the person to whom the information applies.

(4) A record made under subregulation (1) shall contain-

- (a) the date, time and location of the occurrence that resulted in the incident, hazard or accident;
- (b) the name of the injured or ill employee;
- (c) a brief description of the incident, hazard or accident;
- (d) the causes of the injury; and
- (e) measures taken to avert and avoid re-occurrences.

155. Report by employee.

Where an employee becomes aware of an incident, hazard or accident arising in the course of or in connection with his or her work that has caused injury to him or her or to any other person, he or she shall without delay report the incident to the person-in-charge orally or in writing.

156. Notification.

(1) Where an incident or accident occurs in a facility or during a midstream operation and results in serious injury to a person or pollution of the environment, the licensee shall send a notification using Form 5 set out in Schedule 1 to the Authority and copied to the relevant Government ministry, department or agency.

(2) The licensee shall report promptly, the date, time, location and description of an incident, hazard or accident to the Authority, as soon as possible, but in any case not later than twenty four hours after becoming aware of the incident, hazard or accident which resulted in one or more of the following circumstances—

- (a) the death of an employee or any other person;
- (b) a missing person;
- (c) a disabling or serious injury to an employee or any other person;
- (d) a break or leak in tanks or pipelines or auxiliary installations from which loss of its content has occurred;
- (e) the implementation of emergency rescue, revival or evacuation procedures;
- (f) a fire or explosion that threatened the safety or health of an employee or the facility;
- (g) a free fall of an elevating device that rendered the elevating device unsafe for use by an employee; or
- (h) an accumulation, spill or leak of a hazardous substance.

(3) The person-in-charge shall avail the record of the incident or accident referred to under subregulation (2) to an authorised person, when requested.

(4) The licensee shall, within fifteen days from the end of each month in which the incident, or accident occurred, submit to the Authority a report containing a summary of any incidents or accidents that have occurred during the month including a record of employees who have been injured.

(5) Where the Authority is notified of a major incident or accident at a facility or during a midstream operation, the licensee shall, upon request by the Authority provide -

- (a) information regarding the cause of the incident or accident, dangerous substances involved, data available for assessing the effects of the incident or accident on people, wildlife and the environment;
- (b) emergency measures taken and the steps envisaged to alleviate the medium and long-term effects of the incident or accident and to prevent recurrence of the incident or accident; and
- (c) any other information in the licensee's possession to enable the Authority to assess the incident or accident.

(6) The licensee shall, until the circumstances of the incident or accident stabilises, keep the Authority updated on the development and of the measures the licensee plans to implement.

(7) The Authority shall make recommendations on future preventive measures, if any, to be undertaken by the licensee as it deems fit.

(8) A licensee who fails to comply with this regulation commits an offence and is liable on conviction to a fine not exceeding five hundred currency points.

(9) For the purpose of this regulation, "serious injury" includes any injury involving the loss of or impairment in the use of any limb or other part of the body or one which results into such incapacity, whether temporary or permanent, that the victim is incapable to continue with the work which he or she was engaged immediately before he or she suffered the injury.

157. Reporting obligation.

The licensee shall, not later than March 1st of each year, submit to the Authority, a written report setting out the number of incidents or accidents, occupational diseases and other hazardous occurrences which affected any of the employees of the licensee in the course of employment during the twelve month period ending December 31st in the preceding year.

158. Inquiry into incident or accident.

(1) Upon receipt of a notice under regulation 156, the Authority may appoint an independent person to hold an inquiry into the cause of the incident or accident at a facility or during a midstream operation.

(2) The Authority may appoint a legal counsel to assist the person appointed under subregulation (1) in holding the inquiry.

(3) A person conducting an inquiry under this regulation may, subject to confidentiality requirements, where he or she deems fit, open the inquiry to the public and conduct the inquiry in a manner and under conditions he or she considers fit for ascertaining the cause and circumstances of the incident or accident.

(4) The person conducting an inquiry under subregulation (3) may—

- (a) give notice to any person to appear before him or her at a hearing to give evidence and to produce documents referred to in the summons, if any;
- (b) take evidence on oath or affirmation and may for that purpose—
 - (i) require a person appearing at the hearing to give evidence, either to take an oath or make an affirmation; and
 - (ii) administer an oath or affirmation to the person summoned;

- (c) call for the production of relevant books and documents for purposes of the inquiry;
- (d) examine any person or witness, either alone or in the presence of any other person;
- (e) require any such person or witness to sign a declaration of the truth of the matter on which he or she is so examined; and
- (f) exercise other powers as may be necessary for purposes of the inquiry.

(5) A person served with a notice to appear as a witness at a hearing under subregulation (4) who without reasonable cause—

- (a) fails to attend a hearing; or
- (b) fails or refuses to produce a document required under the Act and these Regulations, commits an offence and is liable on conviction to a fine not exceeding five hundred currency points or imprisonment not exceeding three years or both.

(6) Upon conclusion of the inquiry, the independent person appointed under subregulation (1) shall report his or her findings to the Authority and send a copy to the licensee.

(7) A notice requiring a witness to appear at an inquiry to be held under this regulation shall be in Form 6 set out in Schedule 1.

PART XII—MISCELLANEOUS

159. Spillage at facility during midstream operation.

(1) The licensee shall immediately and in any case not later than twenty four hours, notify the Authority of the spillage of any hazardous substance inside the facility or during a midstream operation.

(2) The licensee shall, within seven days after the spillage occurs submit to the Authority a written report describing-

- (a) the cause and nature of the spillage;
- (b) the estimated amount of spillage and the method of estimating it;
- (c) the amount of spillage recovered;
- (d) precautionary measures taken since the spillage to prevent any hazard that may arise from the spillage; and
- (e) precautionary measures taken to prevent such spillage in the future.

(3) The licensee shall comply with regulations made under section 3 (8) of the Act and the National Environment Act.

160. Effluent and drainage disposal at facility or during midstream operation.

(1) The licensee shall ensure that drainage and disposal of a facility effluent and drainage water conform to these Regulations, regulations made under section 3 (8) of the Act, regulations and guidelines made under the National Environment Act, standards approved by the Authority, best petroleum industry practices and the specification of the effluent and the mode of disposal shall be subject to the approval of the Authority and the National Environment Management Authority.

(2) The licensee shall ensure that complete analyses of the effluent and drainage water are performed at regular intervals in accordance with standards approved by the Authority and best petroleum industry practices and results of the analyses are clearly entered in a register specially kept for that purpose and every entry is duly signed by the person-in-charge of the facility or midstream operations.

(3) The licensee shall adopt all practicable precautions including the provision of up-to-date equipment to prevent pollution of the environment by petroleum commodities or petroleum products and where such pollution occurs the licensee shall take prompt steps to control and minimise the impact of the pollution in accordance with applicable law.

(4) An authorised officer may draw samples of any effluent and drainage water at any time for analysis.

(5) A person who contravenes this regulation commits an offence and is liable on conviction to a fine not exceeding five thousand currency points.

161. Election of safety representatives.

The licensee shall ensure that safety representatives are elected at every facility in accordance with section 15 of the Occupational Safety and Health Act, 2006.

162. Power of the safety representative to halt dangerous work.

(1) Where a safety representative considers that the life or health of employees is in immediate danger and the danger cannot be averted by other means, he or she may order for the work to be halted until—

- (a) the safety inspector decides whether work may be continued;
or
- (b) the safety representative is satisfied that the matter causing the danger has been rectified or that the danger has been averted.

(2) Where the safety representative orders that work is halted under subregulation (1), he or she shall inform the licensee or person-in-charge of the midstream operation or facility, as the case may be, of the reason for his or her decision and the remedial actions to be undertaken before operations can be resumed.

163. Establishment of safety committees.

(1) A facility or midstream operation which employs more than twenty employees shall have a working environment committee comprising of a representative of the licensee and employees.

(2) The working environment committee shall participate in planning for safety in the work environment and shall follow up developments relating to the safety, health and welfare of the employees.

- (3) The working environment committee shall consider—
- (a) matters relating to occupational health service and the internal safety service;
 - (b) matters relating to training, instruction, information and operations in the facility or midstream operations that are of significance for the working environment;
 - (c) plans that require the consent of the labour inspector and other plans that may be of material significance for the working environment, including plans for construction work, purchase of machines, rationalisation, work processes and preventive safety measures; and
 - (d) the establishment and maintenance of the systematic health, environment and safety work of the facility.

164. Inspections and investigations.

(1) The Authority shall organise inspection of facilities or other measures of control appropriate to the type of the facility.

(2) The inspection or control measures referred to in subregulation (1) shall be sufficient for a planned and systematic examination of the systems employed at the facility, whether of a technical, organisational or managerial nature, and shall ensure that—

- (a) the licensee demonstrates that appropriate measures to prevent major incidents, hazards or accidents have been taken;
- (b) the licensee demonstrates that appropriate means have been provided for limiting the consequences of major incidents, hazards or accidents both inside and outside the facility; and
- (c) the information contained in every report sent to the Authority by the licensee adequately reflects the conditions in the facility.

(3) A system of inspection referred to in subregulation (1) shall have the following conditions—

- (a) a plan of inspections for all facilities;
- (b) where the plan is based upon a systematic appraisal of major incidents, hazards or accidents of a particular facility concerned, the plan shall entail at least one on-site inspection made on behalf of the Authority every twelve months;
- (c) a report shall be prepared by the Authority after each inspection; and
- (d) where necessary, the findings shall be addressed by the licensee within two months following the inspection.

165. Notification to the department of occupational health and safety.

(1) The Authority shall, within two days of any major incident, hazard or accident meeting the criteria specified under these Regulations notify the Government ministry, department or agency responsible for occupational health and safety.

(2) The notification referred to in subregulation (1) shall contain an analysis of the incident, hazard or accident and any recommendations made by the Authority.

166. Communication systems and equipment.

(1) A facility shall be fitted with communication systems to enable internal and external communication on the facility.

(2) The communication equipment shall be based on operational needs, the type of operation, the likely or defined incident, hazard or accident.

(3) The communication equipment and associated power supplies shall be designed and protected to maintain their function in case of an incident, hazard or accident.

(4) The facility shall be outfitted with alarm systems that can notify the employees in case of an incident, hazard or accident.

(5) The communication equipment and its use shall comply with the applicable laws and standards approved by the Authority and best petroleum industry practices for the individual installation.

(6) Subject to compliance with any requirement of the Uganda Communications Act, 2013, all manned platforms and launches carrying persons to working locations shall carry means of communication with other manned platforms in the same area or with the nearest operation base.

167. Power to prohibit the use of installation or facility.

(1) The Authority shall prohibit a midstream operation, operation of a facility or the bringing into operation of a facility or installation or any part of a facility or installation where—

- (a) the measures taken by the licensee for the prevention and mitigation of major incidents, hazards or accidents do not meet requirements of these Regulations, standards approved by the Authority and best petroleum industry practices or any other applicable law; or
- (b) the licensee has failed to submit notification, report or other information required under these Regulations.

(2) Where the Authority proposes to prohibit a midstream operation, operation of a facility or the bringing into operation of a facility or installation, the Authority shall give the licensee a notice giving reasons for the prohibition and requiring the licensee to rectify the issues identified in the notice.

(3) The licensee shall comply with the notice issued under subregulation (2) within the time specified in the notice.

(4) The Authority may withdraw the notice at any time in writing where the licensee implements the measures specified in the notice under subregulation (2) to the satisfaction of the Authority.

168. General offences and penalties.

(1) A person who-

- (a) wilfully or negligently contravenes any directive issued under these Regulations;
- (b) wilfully fails to permit any inspection authorised under these Regulations; or
- (c) knowingly or recklessly makes a return required by these Regulations or furnishes information so required, which is in any respect false,

commits an offence and is liable on conviction to a fine not exceeding two thousand currency points and in the case of a continuing contravention, is liable to an additional fine not exceeding one hundred currency points in respect of each day on which the offence continues.

(2) A person who commits a second or subsequent offence is liable on conviction to a fine not exceeding four thousand currency points .

(3) The Minister may suspend or cancel a licence in accordance with section 30 of the Act, where the licensee contravenes any provision of these Regulations.

SCHEDULES

SCHEDULE 1

FORM 1

Regulation 13 (6)

THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT) REGULATIONS, 2016.

MATTERS TO BE ADDRESSED IN SAFETY MANAGEMENT SYSTEMS

1. A safety management system shall—
 - (a) be proportionate to the hazards, midstream operations and complexity of the organisation in the facility;
 - (b) be based on assessment of the risks;
 - (c) include within its scope the general management system, including the organisational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the major accident prevention policy.

2. The following matters shall be addressed by the safety management system—
 - (a) in relation to the organisation and employees—
 - (i) the roles and responsibilities of employees involved in the management of major incidents, hazards and accidents at all levels in the organisation, together with the measures taken to raise awareness of the need for continuous improvement;
 - (ii) the identification of the training needs of the employees and the provision of the training; and

- (iii) the involvement of employees and of subcontracted workers in the facility, who are important from the point of view of safety;
- (b) the identification and evaluation of major incidents, hazards and accidents;
- (c) the adoption and implementation of procedures for systematically identifying major hazards arising from normal and abnormal operation, including subcontracted operations where applicable, and the assessment of their likelihood and severity;
- (d) in relation to operational control—
 - (i) the adoption and implementation of procedures and instructions for safe operation, including maintenance of plant, processes, equipment, alarm management and temporary stoppages;
 - (ii) the taking into account of available information on best petroleum industry practices for monitoring and control, with a view to reducing the risk of system failure;
 - (iii) the management and control of the risks associated with ageing equipment installed in the facility and its corrosion;
 - (iv) the inventory of the facility's equipment, and the strategy and methodology for the monitoring and control of the condition of the equipment; and
 - (v) appropriate follow up actions and any necessary counter-measures;
- (e) the management of change including the adoption and implementation of procedures for planning modifications to or the design of new installations, processes or storage facilities;
- (f) in relation to planning for emergencies-
 - (i) the adoption and implementation of procedures to identify foreseeable emergencies by systematic analysis;

(ii) the preparation, testing and review of emergency plans to respond to emergencies and the provision of specific training for employees in a facility, including subcontracted workers;

(g) in relation to monitoring performance—

(i) the adoption and implementation of procedures for the ongoing assessment of compliance with the objectives set by the licensee's major accident prevention policy and safety management system and the mechanisms for investigation and taking corrective action in case of non-compliance;

(ii) the procedures must cover the licensee's system for reporting major accidents or near misses, particularly those involving failure of protective measures, their investigation and follow-up on the basis of lessons learned; and

(iii) the procedures shall also include performance indicators such as safety performance indicators and other relevant indicators; and

(h) in relation to audit and review—

(i) the adoption and implementation of procedures for periodic systematic assessment of the major incident or accident prevention policy and the effectiveness and suitability of the safety management system; and

(ii) the documented review of performance of the policy and safety management system and its updating by the licensee, including consideration and incorporation of necessary changes indicated by the audit and review.

FORM 2

Regulation 14 (2) (a)

THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT) REGULATIONS, 2016.

MINIMUM INFORMATION TO BE INCLUDED IN A SAFETY DOCUMENT

1. Information on the licensee' management system and on the organisation of the facility or installation with a view to major incident or accident prevention including the matters set out in regulations 13 and 27 in relation to the process safety management system.
2. The environment of the facility or installation stating—
 - (a) a description of the facility and its environment including the geographical location, meteorological, geological, hydrographic conditions and, if necessary, its history;
 - (b) identification of installations and other operations of the facility that may present a major incident, hazard or accident;
 - (c) on the basis of available information, identification of neighbouring facilities, as well as sites that fall outside the scope of these Regulations, areas and developments that may be a source of or increase the risk or consequences of a major incident, hazard or accident and its effects; and
 - (d) a description of areas where a major incident or accident may occur.
3. The details of the facility including—
 - (a) a description of the main operations and products of the parts of the facility which are important from the point of view of safety, sources of major incidents or accident risks and conditions under which a major incident or accident may happen, together with a description of proposed preventive measures;

- (b) a description of processes, in particular the operating methods, where applicable, taking into account available information on best practices;
- (c) a description of hazardous substances, including—
 - (i) an inventory of hazardous substances including the identification of hazardous substances and the maximum quantity of hazardous substances present or likely to be present; or
 - (ii) the physical, chemical, toxicological characteristics and indication of the hazards, both immediate and delayed for human health and the environment;
 - (iii) the physical and chemical behaviour under normal conditions of use or under foreseeable accidental conditions.

4. Identification and accidental risks analysis and prevention methods—

- (a) a detailed description of the possible major incident or accident scenarios and their probability or the conditions under which they might occur including a summary of the events which may play a role in triggering each of these scenarios, the causes being internal or external to the facility including in particular—
 - (i) operational causes;
 - (ii) external causes, such as those related to domino effects, sites that fall outside the scope of these Regulations, areas and developments that could be the source of or increase the risk or consequences of a major accident; or
 - (iii) natural causes, for example earthquakes or floods;
- (b) an assessment of the extent and severity of the consequences of identified major incidents or accidents including maps, images or as appropriate, equivalent descriptions showing areas which are likely to be affected by such incidents or accidents arising from the facility;

- (c) a review of past accidents and incidents with the same substances and processes used, consideration of lessons learned from the past accidents and incidents and explicit reference to specific measures taken to prevent such accidents; and
- (d) a description of technical parameters and equipment used for the safety of facilities.

5. Measures of protection and intervention to limit the consequences of a major incidents, hazards or accident, including—

- (a) a description of the equipment installed in the facility to limit the consequences of major incidents, hazards or accidents for human health and the environment, including detection or protection systems, technical devices for limiting the size of accidental releases including water spray, vapour screens, emergency catch pots or collection vessels, shutoff valves, inerting systems and water retention;
- (b) the organisation of alert and intervention;
- (c) a description of mobilisable resources, internal or external; and
- (d) a description of any technical and non-technical measures relevant for the reduction of the impact of a major accident.

FORM 3

Regulation 29(6)

THE REPUBLIC OF UGANDA

**THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND
MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT)
REGULATIONS, 2016.**

**NOTIFICATION OF HAZARDOUS CHEMICALS AND BIOLOGICAL
SUBSTANCES.**

Date:

To: The Executive Director, Petroleum Authority of Uganda,

Name and address of licensee

	Name of substance	Quantity of hazardous substance at the start of operation	Quantity of hazardous substance increased	Reason for the increase in hazardous substances
1.				
2.				
3.				
4.				
5.				
6.				

Signed.....

On behalf of.....(name of licensee)

FORM 4

Regulation 115 (2) (b)

THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT) REGULATIONS, 2016.

INFORMATION TO BE INCLUDED IN AN EMERGENCY PLAN

The emergency plan shall describe—

1. Site and hazard detail showing—
 - (a) the location of the facility in sufficient detail;
 - (b) a map of the facility—
 - (i) showing the site;
 - (ii) showing land use and occupancy in the surrounding area, any other closely located major hazard facilities and hazardous chemical storage sites; and
 - (iii) identifying all potentially hazardous inventories in the area that are known to the licensee and the location of all staging points for emergency services;
 - (c) an inventory of all hazardous chemicals present or likely to be present at the facility, and their location;
 - (d) a brief description of the nature of the facility and its operation;
 - (e) the maximum number of persons likely to be present at the facility on a normal working day;
 - (f) the emergency planning assumptions, including emergency measures planned for identified incidents and areas likely to be affected;
 - (g) the protective resources available to control an incident, hazard or accident;
 - (h) the emergency response procedures; and
 - (i) the infrastructure likely to be affected by a major incident, hazard or accident.

2. Command structure and site employees demonstrating—
 - (a) the command philosophy and structure to be activated in an emergency, what actions will be taken, who will take the actions and how, when and where the actions will be taken;
 - (b) details of the person who can clarify the emergency plan if necessary;
 - (c) the contact details and the means of contacting the persons at the facility responsible for liaising with emergency services;
 - (d) a list of 24 hour emergency services contacts; and
 - (e) arrangements for assisting emergency services and nearby facilities with control actions to be taken in the surrounding area.
3. Notifications.
 - (a) in the event of the occurrence of a major incident or accident or an event that could reasonably be expected to lead to a major incident or accident, procedures for notifying the emergency services;
 - (b) after a major incident or accident has occurred, procedures for providing the local community, the local authority and the surrounding area with information about the major incident or accident;
 - (c) procedures for activating warning systems;
 - (d) contact details for emergency services and other support services that can assist in providing resources and implementing evacuation plans in the event of a major incident or accident; and
 - (e) procedures for initiating communication systems.
4. Resources and equipment.
 - (a) on-site emergency resources, including emergency equipment, employees, gas detectors, wind velocity detectors, sand, lime, neutralising agents, absorbents, spill bins and decontamination equipment; and

- (b) off-site emergency resources, including arrangements for obtaining additional external resources specific to the likely major incidents to assist the control of major incidents and major accident; and

5. Procedures.

- (a) for the safe evacuation of, and accounting for all people on site;
- (b) and control points for utilities, including gas, water and electricity;
- (c) for the control of any incident involving hazardous chemicals; and
- (d) for decontamination following an incident involving hazardous chemicals.

FORM 5

Regulation 156(1)

**THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND
MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT)
REGULATIONS, 2016.**

NOTICE OF INCIDENT OR ACCIDENT

Date:

To: The Executive Director Petroleum Authority of Uganda,

1. Name and address of licensee
2. Date of accident..... Time :.....
3. Place of incident or accident—
 - (a) location :.....
 - (b) county:.....
 - (c) district:.....
4. Nature of accident :.....
5. How accident occurred:.....
6. Name of injured or deceased person(s):.....
7. Particulars of the injured or deceased:.....
8. Date and time of application of first aid:.....
9. Date injured person was sent to hospital :.....
10. Place where injured person may be interviewed;.....

11. Names of eye-witnesses, if any, and copies of any statement taken at the time of or immediately after the incident under report—

12. State whether in your opinion there was any degree of serious or wilful misconduct involved.

.....
Signature

.....
Designation

FORM 6

Regulation 158(7)

THE REPUBLIC OF UGANDA

**THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION AND
MIDSTREAM STORAGE) (HEALTH, SAFETY AND ENVIRONMENT)
REGULATIONS, 2016.**

NOTICE TO WITNESS TO APPEAR AT AN INQUIRY

To (1)

(2)

(Name of person summoned, his or her qualification and residence, if known)

You are hereby summoned to appear before the undersigned at.....
on the.....day of.....20..... and to give evidence at any
inquiry being held into an incident, hazard or accident that occurred
at..... on the.....day..... of20

You are required to bring with you—

.....
.....
.....

*(If the person summoned is to produce any documents, specify the books, plans
and documents required).*

Given under my hand at, this day of, 20 ...

.....
Name, designation

SCHEDULE 2

SAFETY SIGNS

Regulation 20(2)

Facility Identification Signs

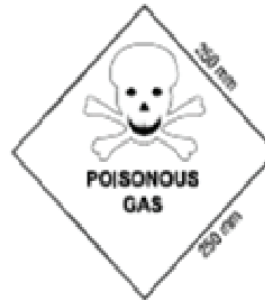
CATEGORY I

White Symbol and lettering
on red background



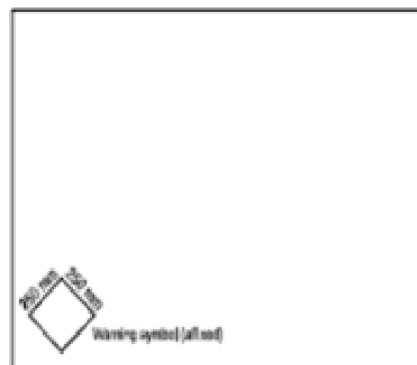
CATEGORY II

Black Symbol outline and
lettering on White background



FACILITY IDENTIFICATION SIGN

Must contain the applicable
information as regulated by
section 132



Cross References

Atomic Energy Act. Cap 143.

Employment Act 2006, Act No.14 of 2006.

National Environment Act. Cap 153.

National Environment (Noise Standards and Control) Regulations, 2003.

Occupational Safety and Health Act 2006, Act No.9 of 2006.

Public Health Act. Cap.281.

Petroleum (Exploration, Development and Production) Act, 2013, Act No. 3 of 2013.

Uganda Communications Act, 2013, Act No. 1 of 2013.

Uganda National Bureau of Standards Act, Cap. 327.

Workers Compensation Act, 2000, Act 8 of 2000.

ENG. IRENE MULONI (MP).

Minister for Energy and Mineral Development.