

**STATUTORY INSTRUMENTS SUPPLEMENT**

*to The Uganda Gazette No. 39, Volume CIX, dated 2nd June, 2016*

Printed by UPPC, Entebbe, by Order of the Government.

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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. 36.**

**THE PETROLEUM (REFINING, CONVERSION, TRANSMISSION  
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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. 36.

**The Petroleum (Refining, Conversion, Transmission and  
Midstream Storage) Regulations, 2016.**

*(Under section 10 (1), 11(2), 14 (2), 15(1), 18 (m), 20(4), 22(2), 34 (2), 37 (1), 39 (3), 40, 70 (3) and 95 of the Petroleum (Refining, Conversion, Transmission and Midstream Storage) Act, 2013, Act No. 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 .....day of ....., 2016.

PART I—PRELIMINARY

**1. Title.**

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

**2. Interpretation.**

In these regulations, unless the context otherwise requires—

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

“aboveground storage tank” means a storage tank that is not an underground storage tank;

“alter” means to—

(a) enlarge, reduce, upgrade or remove a facility;

(b) change the configuration of a facility or its auxiliaries;

(c) change the normal use of a facility; or

- (d) replace any components that forms an integral part of a facility;
- “assist stream” means a stream of either steam or air injected into the waste stream to prevent incomplete combustion;
- “authorised officer” means an officer or other person acting under the authority of the Minister or the Authority under the Act and these Regulations;
- “Authority” means the Petroleum Authority of Uganda established under the Petroleum (Exploration, Development and Production) Act, 2013;
- “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;
- “class A petroleum” means petroleum commodities or petroleum products which have flash point below 23°C;
- “class B petroleum” means petroleum commodities or petroleum products which have flash point of 23°C and above but below 65°C;
- “class C petroleum” means petroleum commodities or petroleum products which have flash point of 65°C and above but below 93°C;
- “competent person” in respect of a specified duty, means a person appointed by the licensee, who because of his or her knowledge, training and experience, is qualified to perform that duty properly and safely;
- “completion of construction” means, in respect of the construction, alteration or substantial modification of a facility, that the functional systems and utility systems of the facility have been designed, constructed or installed and tested according to the approved detailed engineering design, standards approved by the Authority and best petroleum industry practices;

“containment system” means a system designed and installed to retain and collect any leak or spill of petroleum commodities or petroleum products from a storage tank system;

“critical equipment” means any equipment which if taken out of commission will endanger the life of or lead to a shut-down of the refinery, conversion plant or other petroleum process plant or parts of the refinery, conversion plant or other petroleum process plant;

“critical juncture” means—

(a) in the case of the repair or upgrade of an underground storage tank system, the steps in the repair project which are important in the prevention of leaks and shall, at a minimum, include the following—

(i) the excavation of the existing tank or piping;

(ii) the actual performance of the repairs or upgrades to the tank or the piping;

(iii) any time during the project in which components of the piping are connected; and

(iv) any time during the project in which the tank system or its associated piping is tested; and

(b) in the case of a closure, the steps in the removal or in-place closure of an underground storage tank system which are important to the safe removal or closure in place including the detection of current or previous leakage and shall, at a minimum, include the following-

(i) the purging or inverting of vapors;

- (ii) the removal and disposal of underground storage tank contents;
- (iii) the excavation of the existing underground storage tank system;
- (iv) the actual performance of the tests or monitoring to determine if previous or current leakage is present;
- (v) the actual removal of the existing underground storage tank and piping; and
- (vi) the assessment of the site to ascertain if a current or previous release has resulted in contamination of the environment;

“decommissioning” means the approved process of cessation of operations of midstream facilities, installations and structures, including, total or partial removal of facilities, installations and structures where applicable, chemicals, and all such other materials handling, removal and disposal of debris and removed items, environmental monitoring of the area after removal of installations and structures;

“facility” means any plant, structure, device or other associated equipment or infrastructure used for midstream operations;

“flare tip” means instrument or device used to burn off gases given off in a facility in an environmentally-friendly way;

“flame lift off” means a condition where the flame and burner become separated;

“flame lick” means a technique used to lower the intensity of flickering flame;

“fill point” means a location where the tanker delivery pipework connects to fill the tank;

“ground disturbance” means work, operation or activity that results in the disturbance of the earth as a result of excavating, digging, trenching, ploughing, drilling, tunneling, backfilling, blasting, topsoil stripping, land leveling, pit removing, quarrying, clearing or grading;

“inventory” means the amount of petroleum commodities or petroleum products calculated to be in a storage tank after considering the initial volume of petroleum commodities or petroleum products in the storage tank and the amount of petroleum commodities or petroleum products added to and removed from the storage tank during a specified period of time;

“install” means the work involved in constructing or placing a facility or any part of the facility;

“knock-out drum” means a vapour-liquid separator that prevents liquid carryover into the flare system;

“leak” means a gradual discharge or loss of petroleum commodity, petroleum product or any other fluid from a facility to the environment;

“main area” means area or building block on the facility that contains identical or similar functions;

“naked light” includes any unprotected source of thermal or electrical action which produces sparks or is capable of igniting petroleum, petroleum vaporised that are liquid at normal temperatures and pressure conditions such as stabilised or field condensate, including the residue gas remaining after the condensation or extraction of the liquid petroleum from gas;

“petroleum products” means all products resulting from refining or conversion of petroleum commodities;

“pipeline system” means all parts of physical facilities through which petroleum commodities or petroleum products move in transmission including pipes, pipelines, valves, and other accessories attached to pipes, pumps, compressor units, meters, safety systems, corrosion protection systems and regulators;

“refining” means the transformation of crude oil into finished or partly finished petroleum products using different processes of distillation, cracking and reforming or other methods of altering the molecular structure of the crude oil;

“release” means to spill, discharge, and dispose of any petroleum or other liquids;

“restricted area” means the total area within a facility together with those areas outside the facility where work undertaken is the full responsibility of the facility licensee;

“repair” means minor maintenance operations that improve the integrity of a facility;

“spill” means a release of petroleum commodities or petroleum products into the environment from or out of a facility;

“standards” means standards, specifications, and codes of practice which apply to the construction, operation, use, decommissioning and disposal of facilities required for the purpose of carrying out midstream operations including standards for emission, company standards, compulsory standards specifications, international standards or national standards issued under the National Bureau of Standards Act;

“storage tank” means a tank used or designed to be used for the storage of petroleum commodities or any one petroleum product of an aggregate capacity of 50,000 litres or more;

“storage tank system” means one or more midstream storage tanks and all the connecting piping including pumps and product transfer apparatus, dyking, overfill protection equipment and associated spill containment and collection apparatus;

“substantial modification” means, in respect to a facility, increasing or decreasing the capacity of the facility by 25 percent or more or replacing the entirety of the core technology used in the facility;

“tank vehicle” means a motor vehicle designed in accordance with these Regulations for the transmission of petroleum commodities or petroleum products in bulk by road;

“tariff” means a written statement of rates, terms and conditions for services relating to midstream facilities;

“underground storage tank” means a storage tank with 90 percent or more of its volume beneath the ground surface or covered or partially covered with material including earth, backfill or concrete;

“underground storage tank system” means one or more underground midstream storage tanks and all connecting piping whether aboveground or underground, including pumps and product transfer apparatus, dyking, overfill protection equipment and associated spill containment and collection apparatus.

### **3. Responsibility of the licensee.**

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

(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—LICENSING, DESIGN, CONSTRUCTION AND OPERATION OF A  
PETROLEUM REFINERY, CONVERSION PLANT OR OTHER PETROLEUM  
PROCESS PLANT

*Licence to Construct a Refinery, Conversion Plant  
or Other Petroleum Process Plant.*

**4. Licence to construct a refinery, conversion plant or other petroleum process plant.**

(1) A person shall not construct a refinery, conversion plant or any other petroleum process plant without a licence issued by the Minister in accordance with the Act and these Regulations.

(2) An application for a licence to construct a refinery, conversion plant or any other petroleum process plant shall be made to the Minister in Form 1 set out in Schedule 1 and shall be accompanied by the fees prescribed in Schedule 2.

(3) An applicant for a licence to construct a refinery, conversion plant or any other petroleum process plant shall submit the following documents to the Minister in addition to the requirements under section 10 (6) of the Act-

- (a) refinery, conversion plant or other petroleum process plant configuration including-
  - (i) basic process configuration including piping and instrumentation diagram of the process units, utilities and offsite facilities;
  - (ii) process technology selection and licensors;
  - (iii) material and energy balances;
  - (iv) process flow diagrams of the plant;
  - (v) electrical single line diagram; and
  - (vi) the plant layout;

- (b) project execution strategy including—
  - (i) building plans;
  - (ii) risk assessment;
  - (iii) the project implementation schedule; and
  - (iv) product storage and distribution plan including facility design, layout and metering;
- (c) quality assessment including—
  - (i) detailed list of equipment and test procedures;
  - (ii) quality control programs; and
  - (iii) crude oil or feedstock supply and product metering procedures and evacuation schemes; and
- (d) process safety considerations and utilities provision including—
  - (i) electric power generation and plant earthen philosophy;
  - (ii) power distribution, load flow analysis and short circuit study;
  - (iii) control and instrumentation systems including process system and alarms, fire and gas system and emergency shutdown design (ESD) system design and implementation;
  - (iv) waste disposal program of the refinery, conversion plant or other petroleum process plant including solid, liquid and gaseous wastes;
  - (v) hazard and operability (HAZOP) report;
  - (vi) safety analysis function evaluation (SAFE) chart;
  - (vii) 3-D model walkthrough reports;

- (viii) hazard identification (HAZID) and risk assessment report;
- (ix) cause and effect diagrams;
- (x) safety equipment layout; and
- (xi) general facilities layout.

(4) The Minister shall process and grant the licence in accordance with the Act and these Regulations.

*Design and Construction of Refinery, Conversion Plant  
or Other Petroleum Process Plant.*

**5. Engineering and design of refinery, conversion plant or other petroleum process plan.**

(1) The licensee shall, prior to the choice of design solution for the refinery, conversion plant or other petroleum process plant—

- (a) draw up an overall plan to take into account aspects of the environment, operational regularity, manning level, lifetime, maintenance strategy, expected changes in operational conditions over time and future needs;
- (b) obtain all environmental parameters from an independent site survey with all the data gathered and properly documented in accordance with the National Environment Act;
- (c) carry out soil test and geo-technical investigations for foundation or load-carrying characteristics of the site;
- (d) prepare a site plan and contour maps showing ground elevations; and
- (e) carryout any other relevant assessments and studies.

(2) The plan referred to under subregulation (1) (a) shall—

- (a) ensure that refinery, conversion plant or other petroleum process plant and auxiliary facilities are divided into main areas;
- (b) ensure that a facility is designed and located in such way that the risk to human health, the environment and assets does not exceed the level set by the safety objectives; and
- (c) be executed in accordance with the Act, these Regulations and any other applicable law.

(3) The environment parameters referred to under subregulation (1) shall include the following meteorological parameters—

- (a) the prevailing wind direction;
- (b) the maximum wind velocity;
- (c) the maximum and minimum atmospheric temperature;
- (d) the relative humidity, rainfall, local flood or tide conditions; and
- (e) any other condition the licensee deems necessary.

## **6. Design of process and auxiliary facilities.**

(1) The licensee shall ensure that process and auxiliary facilities are designed to ensure that equipment upstream and downstream of the process facility is not affected in terms of health, safety and environment.

(2) The licensee shall, when designing process and auxiliary facilities, ensure and demonstrate to the Authority that—

- (a) facilities have sufficient capacity to handle petroleum commodities or petroleum products for which they are intended;

- (b) the choice of solutions and design in respect of process and auxiliary facilities is based on standards approved by the Authority and best petroleum industry practices;
- (c) flow rates and capacities for the facilities are specified with regard to reaction times, capacity and reliability of control systems and operational aspects;
- (d) the vibration and noise levels, pressure fluctuations and water hammer are taken into account;
- (e) planned manning level, operation and maintenance are suitable and adequate;
- (f) instrumentation and control equipment for process and auxiliary facilities have a high level of reliability;
- (g) adequate devices for pressure relief are provided for;
- (h) the effect of anticipated changes in petroleum commodities characteristics is taken into consideration;
- (i) the facility maintains reliability at the minimum and maximum design and operating temperature; and
- (j) drainage devices are designed to avoid accidental outflow of petroleum commodities or petroleum products.

(3) All components of process and auxiliary facilities shall be fitted with thermic insulation to the extent this is necessary to achieve protection of personnel, ensure energy conservation and protect equipment against undesirable external temperatures.

(4) Where there is a risk of hydrate formation, facilities shall be fitted with possibilities for injection of glycol or methanol, or other similar measures.

(5) The risk of self-ignition or pyrolysis shall be assessed in connection with the choice of materials and procedures for inspection and maintenance.

*Design Requirements for Specific Refinery, Conversion Plant or Other Petroleum Process Plant Facilities*

**7. Pneumatic facilities.**

The licensee shall ensure that pneumatic facilities for instrument air and working air—

- (a) are designed in accordance with standards approved by the Authority and best petroleum industry practices;
- (b) stipulate the limit values for dew point, purity, pressure alteration or substantial modifications and temperature of the air;
- (c) have adequate compressor capacity to ensure stable operational conditions; and
- (d) are equipped such that the specified threshold values for air are complied with.

**8. Heating facilities.**

The licensee shall ensure that heating facilities are designed—

- (a) in accordance with standards approved by the Authority and best petroleum industry practices;
- (b) to take into account necessary measures to avoid external and internal corrosion of the facilities; and
- (c) to prevent ignition in the event of leakage of flammable materials from the facilities.

**9. Inert gas facilities.**

The licensee shall ensure that inert gas facilities are designed—

- (a) in accordance with standards approved by the Authority and best petroleum industry practices;
- (b) so that the choice of location takes into consideration possible consequences of leakages;
- (c) with instrumentation for detection of inert gas leakages;
- (d) to protect structures that may be cooled down by leakages from vessels containing inert gas in liquid form; and
- (e) to ensure that hoses and couplings used for liquid inert gas are suitable for the purpose and hose couplings for distribution of inert gas are of a special type different from other couplings.

## **10. Power Systems.**

Where the refinery, conversion plant or other petroleum process plant has a power plant, the licensee shall ensure and demonstrate—

- (a) that the plant has the capacity set out in the design of the plant; and
- (b) the start-up of major power consumers is possible without overloading the main power plant or risking a shutdown.

## **11. Hazard and Operability (HAZOP) review.**

(1) A refinery, conversion plant or other petroleum process plant design shall be subjected to structured and systematic techniques for plant examination and risk management hazard and operability review to identify different ways in which parameters can deviate from the intended design conditions and create hazards or operability problems at the following stages-

- (a) prior to the approval of a design specification for the refinery, conversion plant or other petroleum process plant, during the Front End Engineering and Design stage of the development of the refinery, conversion plant or other petroleum process plant;

- (b) prior to the approval of a detailed design for the refinery, conversion plant or other petroleum process plant, during the Engineering, Procurement and Construction stage of the development of the refinery, conversion plant or other petroleum process plant; and
- (c) at operating stage, to assess all operation modes including start up, stand by, normal operations and shut downs.

(2) An authorised officer may be present at the hazard and operability reviews, where the Authority considers it necessary.

(3) The licensee shall ensure that each of the stages of engineering designs successfully scale through the appropriate hazard and operability reviews.

## **12. Safety Analysis Function Evaluation (SAFE) Chart.**

(1) A refinery, conversion plant or other petroleum process plant shall be subjected to SAFE relating to all sensing devices, shutdown valves and emergency support systems to their functions and the outcome documented in a SAFE Chart.

(2) The SAFE Chart referred to under subregulation (1) shall list all process components and emergency support systems together with their required safety devices including the functions to be performed by each.

(3) The SAFE review shall be carried out at the following stages—

- (a) prior to the issue of a design specification for the refinery, conversion plant or other petroleum process plant, during the Front End Engineering and Design stage of the development of the refinery, conversion plant or other petroleum process plant; and
- (b) prior to the issue of a detailed design for the refinery, conversion plant or other petroleum process plant, during the Engineering, Procurement and Construction stage of the development of the refinery, conversion plant or other petroleum process plant.

(4) An authorised officer may be present at the SAFE reviews, where the Authority considers it necessary.

(5) The licensee shall ensure that each of the stages of engineering designs successfully scale through the appropriate SAFE reviews.

*Construction of Refinery, Conversion Plant or  
Other Petroleum Process Plant.*

**13. Construction of a refinery, conversion plant or other petroleum process plant.**

(1) This regulation applies to fabrication, installation and erection stages of a refinery, conversion plant or other petroleum process plant.

(2) The licensee shall ensure that the construction of a refinery, conversion plant or other petroleum process plant is carried out in accordance with the Act, these Regulations, any other applicable law, standards approved by the Authority and best petroleum industry practices.

(3) The licensee shall, at the completion of fabrication, engage an independent competent person to undertake quality control inspection.

(4) A comprehensive report of the quality inspection carried out under this regulation shall be submitted to the Authority giving reasons for the conclusion made by the independent competent person.

(5) Where the Authority identifies any material deficiencies, errors or omissions in the report referred to in subregulation (4), the Authority shall notify the licensee within fourteen days of receipt of the report of such deficiencies, errors or omissions and the licensee shall rectify the deficiencies, errors or omissions within a period specified in the notice and resubmit the report to the Authority.

**14. Installation and operation of equipment and other components.**

(1) The licensee shall ensure that equipment and other components installed in a facility are suitable for the intended use.

(2) Facilities shall be manned to ensure that they are safe during normal operations, and in an emergency situation.

(3) The safety of the persons accessing the facility shall be taken into account, and each person shall be informed of matters of importance to safety at the workplace.

**15. Appointment of refinery, conversion plant or other petroleum process plant manager.**

(1) Any work related to the construction, operation or decommissioning of a refinery, conversion plant or other petroleum process plant shall be conducted under the direction and supervision of a refinery, conversion plant or other petroleum process plant manager in charge of all operations authorised by the licence under which he or she is operating.

(2) The licensee shall submit to the Authority in writing the name, qualification and experience of the manager and of any subsequent change of the refinery, conversion plant or other petroleum process plant manager.

(3) The licensee shall be responsible and for the operations, actions, omissions and liabilities of the refinery, conversion plant or other petroleum process plant manager.

(4) The refinery, conversion plant or other petroleum process plant manager shall—

- (a) be responsible for the daily and overall operations of the refinery, conversion plant or other petroleum process plant;
- (b) ensure that the provisions of the Act, these Regulations and any other applicable law are fully complied with in relation to the management and operations of the refinery, conversion plant or other petroleum process plant; and
- (c) carryout any other duties assigned to him or her by the licensee.

*Operation of Refinery, Conversion Plant or  
other Petroleum Process Plant*

**16. Licence to commence operations of refinery, conversion plant or other petroleum process plant.**

(1) Following completion of construction of a refinery, conversion plant or other petroleum process plant or substantial modification of a refinery, conversion plant or other petroleum process plant to the satisfaction of the Authority, the licensee shall apply to the Minister in writing for a licence to operate the facility.

(2) The application shall contain proof that the Authority has inspected and is satisfied with the refinery, conversion plant or other petroleum process plant as required by section 20 (2) of the Act.

(3) The Minister shall in accordance with section 20 (2) of the Act and these Regulations grant the licensee a licence to operate the refinery, conversion plant or other petroleum process plant allowing the licensee to commence operation of the refinery, conversion plant or other petroleum process plant.

**17. Operation permit for refinery, conversion plant or other petroleum process plant.**

(1) Following completion of construction of a refinery, conversion plant or other petroleum process plant or substantial modification of a refinery, conversion plant or other petroleum process plant, the licensee shall notify the Authority in writing of the completion of construction or substantial modification and shall append to such notification the documents set out in subregulation (4).

(2) Prior to notifying the Authority under subregulation (1), the licensee shall appoint an independent health, safety and environment auditor to carry out an inspection and audit of the refinery, conversion plant or other petroleum process plant.

(3) The Authority shall, before granting the operation permit, carry out physical inspection and may conduct an audit of the refinery, conversion plant or other petroleum process plant to ascertain conformance with approved design and standards approved by the Authority and best petroleum industry practices.

(4) The following shall be the pre-requisites for the operation permit—

- (a) documentation to show that process and auxiliary facilities have been fabricated, constructed and function tested in accordance with the requirements of Act, these Regulations, approved design, standards approved by the Authority and best petroleum industry practices;
- (b) reference to standards and other documentation to be used by the licensee;
- (c) a report of the independent health, safety and environment auditor appointed by the licensee under subregulation (2);
- (d) confirmation by the licensee that a qualified refinery, conversion plant or other petroleum process plant manager has been appointed by the licensee;
- (e) organisation structure and schedules of duties for the management staff of the refinery, conversion plant or other petroleum process plant;
- (f) complete equipment reports on all critical equipment including pressure vessels, fired heaters, boilers, rotating equipment and midstream storage tanks;
- (g) confirmation by the licensee of completion of all fiscalisation equipment and systems in accordance with standards approved by the Authority and best petroleum industry practices;
- (h) confirmation by the licensee of availability of adequate spare parts for both commissioning and operations, chemicals, catalysts, lubes, greases and other operating consumable materials in the warehouse appropriately codified and organised;

- (i) operating manuals, maintenance manuals, mechanical catalogues, supplied by the manufacturer, subject to appropriate substantial modifications after commissioning;
- (j) the licensee's safety policy and Safe Operating Procedures (SOPS);
- (k) operating and maintenance schedule and availability of trained manpower;
- (l) submission of a flare minimisation plan;
- (m) functional and effective fire prevention and firefighting plan and equipment in place;
- (n) functional and effective safety enforcement plan and policies in existence;
- (o) three copies of engineering drawings have been supplied by the contractor, indicating any substantial modifications made during construction;
- (p) confirmation by the licensee that the quality control laboratory is completed and functional;
- (q) confirmation by the licensee of the existence of an adequately staffed and equipped First Aid facility;
- (r) confirmation by the licensee that all other provisions, which are reasonably required to facilitate effective commissioning of the plant, have been made;
- (s) confirmation by the licensee that an effective and internationally applicable materials codification and management system is in place;
- (t) confirmation by the licensee that environmental laws and any other applicable law have been complied with; and
- (u) evidence of payment of the fees prescribed in Schedule 2.

(5) Where the Authority is satisfied after carrying out the inspection and audit under subregulation (3) and with the documents submitted by the licensee under subregulation (4), the Authority shall grant the licensee a permit to commence operations of the refinery, conversion plant or other petroleum process plant in accordance with section 20 (3) of the Act and these Regulations.

(6) Where the Authority is not satisfied after carrying out the inspection and audit under subregulation (3) or with the documents submitted by the licensee under subregulation (4), the Authority shall require the licensee to carry out additional works on the refinery, conversion plant or other process plant or to submit additional information within twenty one days from the date of the inspection or audit under subregulation (3) or from the date of receipt of documentation under subregulation (4).

(7) For the avoidance of doubt, an operation licence or operation permit is not required for pilot tests or pilot runs to be conducted by the licensee prior to the completion of construction to test the functionality of the refinery, conversion plant or other petroleum process plant.

## **18. Operation of refinery, conversion plant or other petroleum process plant.**

(1) The licensee shall ensure that the refinery, conversion plant or other petroleum process plant is operated in compliance with the Act, these Regulations, standards approved by the Authority, best petroleum industry practices and any other applicable law.

(2) The licensee shall, by 31st of January of each year, prepare and submit to the Authority an annual program for operations in the form of a presentation.

(3) The annual program referred to under subregulation (2) shall contain—

- (a) operation and maintenance manuals, if modified;

- (b) maintenance schedules;
- (c) HAZOP and HAZID, if modified; and
- (d) risk assessment and risk management.

**19. Storage capacity of refinery, conversion plant or other petroleum process plant.**

(1) The total storage capacities for finished petroleum products in a refinery, conversion plant or other petroleum process plant shall not be less than fifteen days' requirement for the maximum processing capacities of the refinery, conversion plant or other petroleum process plant.

(2) The storage capacity for any feedstock, additive or chemical shall be enough to satisfy at least seven days' requirement for the refinery, conversion plant or other petroleum process plant.

**20. Maintenance of refinery, conversion plant or other petroleum process plant.**

(1) The licensee shall ensure that process and auxiliary facilities with equipment and components are subjected to condition monitoring and maintenance according to a maintenance schedule.

(2) The maintenance referred to under subregulation (1) shall comprise of routine, preventive, scheduled, turn-around maintenance or any other type of maintenance as the licensee may deem necessary.

(3) Testing conditions for facilities, equipment and components shall be specified in the maintenance schedule submitted under regulation 18 (3) (b).

(4) The licensee shall ensure that-

- (a) there are readily available spare parts for critical equipment in the warehouse;

- (b) registration of failures and replacements to ensure compliance with specified criteria are included in the maintenance schedule submitted under regulation 18 (3) (b);
- (c) the facilities of the refinery, conversion plant or other petroleum process plant are regularly examined for corrosion detection, and corrosion protection systems and devices installed shall be checked regularly to ensure effective performance;
- (d) testing for leaks is done regularly;
- (e) all the anti-corrosion performance monitoring is carried out in accordance with standards approved by the Authority and best petroleum industry practices; and
- (f) operational experience is collected and treated systematically for use in regularity analyses and for improvements of equipment and operations of importance to safety.

(5) The licensee shall ensure that any alteration, maintenance, inspection or other major works on a pipeline system of the refinery, conversion plant or other petroleum process plant, is carried out in a way that its soundness and fitness for the purpose for which it has been designed is not prejudiced.

(6) The licensee shall submit to the Authority all turn-around maintenance (TAM) scheduled at least three months prior to its commencement and thereafter, a monthly progress report of the maintenance shall be submitted to the Authority until completion of the turn-around maintenance.

(7) The licensee shall document condition monitoring and maintenance necessary for maintaining the specified safety level.

(8) The refinery, conversion plant or other petroleum process plant manager shall be responsible for initiation, implementation and verification of condition monitoring and maintenance of the refinery, conversion plant or other petroleum process plant.

## **21. Alteration or substantial modification of refinery, conversion plant or other petroleum process plant.**

(1) The licensee shall not alter or substantially modify a refinery, conversion plant or other petroleum process plant except with the prior approval in writing of the Minister in consultation with the Authority.

(2) An application to alter or substantially modify a refinery, conversion plant or other petroleum process plant or any of the units in the refinery, conversion plant or other petroleum process plant or change in the normal use of the refinery, conversion plant or other petroleum process plant or any unit of the refinery, conversion plant or other petroleum process plant shall be in Form 1 set out in Schedule 1 and shall be accompanied by prescribed fee.

(3) An application to alter or substantially modify a refinery, conversion plant or other petroleum process plant under subregulation (2) shall comply with the requirements of section 10 (6) of the Act and regulation 4 (3).

(4) Where the Minister is satisfied that the application submitted under subregulation (1) complies with the requirements of the Act and these Regulations, the Minister shall approve the application within sixty days in case of an application to alter or substantially modify a refinery, conversion plant or other petroleum process plant or change the normal use of the refinery, conversion plant or other petroleum process plant and within fourteen days in case of an application to alter any unit of the refinery or conversion plant or other petroleum process plant, from the date of the application.

(5) Any proposed alteration or substantial modification of an existing refinery, conversion plant or other petroleum process plant shall be done in accordance with the Act, these Regulations, standards approved by the Authority and best petroleum industry practices.

## **22. Disruption of continuous operation of refinery, conversion plant or other petroleum process plant.**

(1) The licensee shall notify the Authority in writing, thirty days before any planned shut-down.

- (2) The licensee shall notify the Authority within twenty four hours—
- (a) on the occurrence of any operational incident resulting in an emergency shut-down of the refinery, conversion plant or other petroleum process plant or any part of the refinery, conversion plant or other petroleum process plant or resulting in putting out of use of any plant, machinery or installation; or
  - (b) on the occurrence of any other emergency resulting in the shut-down or putting out of use under section 68 (1) of the Act.
- (3) The notice under subregulation (2) shall state—
- (a) the reasons for the unplanned shut-down or putting out of use, its estimated duration and its possible effect on the production commitment of the refinery, conversion plant or other petroleum process plant; and
  - (b) the steps, if any, the licensee has taken or proposes to take to avoid a recurrence of the incident or circumstances that give rise to the shut-down or putting out of use.

*Pressure Vessels*

**23. Design, construction and safe operating limits of pressure systems or parts of pressure systems.**

- (1) The licensee shall ensure that pressure vessels and atmospheric vessels are designed and used in accordance with standards approved by the Authority and best petroleum industry practices and that—
- (a) deformation or damage to internal equipment do not affect overpressure protection devices;
  - (b) provision is made for future condition monitoring and maintenance;
  - (c) the design minimises the number of weld joints and is configured to enable a volumetric inspection, preferably by means of ultrasonic without disturbing influence from

- geometrical shape; and
- (d) the pressure vessel, including support and foundation are designed and constructed without crevices and pockets to minimise the risk for corrosion and to enable easy and effective application of corrosion protection.

(2) The licensee shall ensure that a pressure system or a part of a pressure system—

- (a) is of good construction, sound material, adequate strength, suitable quality and free from patent defect;
- (b) is properly installed and used;
- (c) is properly maintained;
- (d) has safe operating limits of pressure equipment or the pressure system established and adequate information on the limits is available;
- (e) has a vessel marked with the information specified in Form 2 set out in Schedule 1;
- (f) each vessel is uniquely marked in a plainly visible and durable form to enable it to be readily identifiable;
- (g) in the case of a steam boiler, the safe operating limit is clearly displayed;
- (h) the steam boiler is not operated or allowed to be operated beyond its safe operating limits except for testing purposes as specified by, and under the direction of, a competent person; and
- (i) the system is provided with adequate and appropriate protective devices, and the device designed to release contents

does so safely.

**24. Installation of pressure equipment or pressure system.**

The licensee shall ensure that pressure equipment or a pressure system at a refinery, conversion plant or other petroleum process plant is installed so that it can be used safely, without risk to health or impairing the operation of any protective device, inspection of a facility or installation of the pressure equipment or a pressure system.

**25. Marking of pressure systems.**

A person shall not remove from a pressure equipment any mark, plate or label or falsify any mark on pressure equipment or on a plate or label attached to it, relating to its design, construction, test or operation.

**26. Information and instruction.**

(1) The licensee shall ensure that in respect of pressure equipment or a pressure system—

(a) the necessary measures are taken to ensure that employees or any other person participating in midstream operations have at their disposal adequate information and written instructions concerning—

(i) conditions of use;

(ii) safe operation;

(iii) foreseeable abnormal situations;

(iv) action to be taken in the event of an emergency; and

(v) conclusions to be drawn from experience in using the equipment, where appropriate; and

(b) employees are made aware, whether or not they use the equipment, of safety and health risks relevant to the employees associated with pressure systems located at or near their

workstation.

(2) The licensee shall ensure that pressure equipment or a pressure system is not operated except in accordance with information or instructions provided under subregulation (1).

(3) Where the licensee modifies or repairs a pressure equipment or a pressure system, the licensee shall provide sufficient written information concerning the substantial modification or repair to the user or operator of the system, as may reasonably be needed, to enable the provisions of this Part to be complied with and the information shall be provided to the user as soon as is practicable after the substantial modification or repair and before the pressure system is put back into operation.

## **27. Maintenance of pressure systems.**

The licensee shall ensure that—

- (a) as far as is reasonably practicable, maintenance operations are carried out when the pressure system is depressurised and, where this is not practicable, appropriate protection measures are taken for the carrying out of the operations, where there is a likely hazard from pressure;
- (b) where appropriate, maintenance files for any pressure system are maintained and kept up to date; and
- (c) where there is need for repairs which are significant in relation to the system's safety in withstanding the repairs, a competent person is consulted on the particulars of those repairs.

## **28. Examination of pressure equipment and pressure systems.**

(1) The licensee shall ensure that when pressure equipment or a pressure system is installed for the first time at a location—

- (a) in the case of new fixed pressure equipment or a pressure system—
  - (i) it is inspected by a competent person and where appropriate, safety devices are tested, prior to first

- commissioning; and
- (ii) a certificate of commissioning is obtained for pressure vessels, and where appropriate, tests have been done by a competent person specifying the safe operating limits;
- (b) in the case of previously used fixed pressure equipment or a pressure system being installed at a new location, it is inspected and any pressure vessel is examined in accordance with subregulation (3); and
- (c) in the case of a portable or transportable vessel, it has been examined in accordance with subregulation (3).

(2) The period within which the first of the examinations referred to in subregulation (1) shall be carried out in respect of a pressure vessel referred to in subregulation (3) shall be determined by reference to the date it was first taken into use, which shall be recorded in the register referred to in regulation 30.

(3) The licensee shall ensure that a pressure vessel of a type or class specified in Form 3, column 1 set out in Schedule 1, and any associated protective devices and pressure accessories, are not used unless they have been examined by a competent person—

- (a) at least once during the period specified in Form 3, column 2 set out in Schedule 1, unless that period has been amended under regulation 29 (5) or a different period has been specified in writing by the manufacturer;
- (b) after substantial modification or repair and before return to service where any substantial modification or repair is carried out to a pressure vessel, and the substantial modifications or repairs are significant in relation to the vessel being able to safely withstand pressure; or
- (c) at any time at the request of the Authority or an authorised officer.

- (4) The examination referred to in subregulation (3)—
- (a) may be completed in a number of phases and the examination is not complete until all phases are completed;
  - (b) shall, in the case of equipment which is heated, consist of an examination of the equipment when it is cold and an examination of the equipment when under normal pressure; and
  - (c) may include a test.

(5) Where an examination of the pressure equipment or pressure system is done under pressure, it shall be made when normal pressure of the pressure equipment or pressure system is raised after the examination was done when the pressure equipment or pressure system was cold, within twenty eight days of the completion of the first part of the examination or within a reasonable period specified by the Authority.

(6) Where a report of an examination under this regulation contains conditions for the safe working of the pressure equipment or pressure system, the licensee shall ensure that it is used only in accordance with those conditions.

## **29. Report by competent person.**

(1) A competent person carrying out an examination or test of a pressure vessel under regulation 28 shall prepare a report of the result of his or her examination or test and shall furnish a copy of the report to the licensee.

- (2) Where a report referred to in subregulation (1) provides for—
- (a) the immediate cessation of the use of a pressure vessel or part of a pressure vessel; or
  - (b) the carrying out of certain repairs or substantial modifications necessary for the safe use of the vessel, the licensee shall, not later than twenty days after the receipt of the report from the

competent person, send a copy of the report of the examination to the Authority.

(3) Where the report furnished in accordance with subregulation (1) states that immediate cessation of the use of the pressure vessel is required, the licensee shall ensure that the pressure vessel is not operated until the repairs or substantial modifications, as the case may be, have been carried out.

(4) The competent person carrying out an examination under regulation 28-

(a) may specify a longer period of examination than the period specified in column 2 of Form 3 set out in Schedule 1, in relation to a pressure vessel of a class referred to in column 1 of Form 3, where the competent person forms the opinion that it is appropriate for the conditions of operation and the class of pressure vessel concerned and he or she shall provide the reason for the opinion in writing to the licensee; and

(b) may specify a shorter period of examination than the period specified in column 2 of Form 3 set out in Schedule 1 in relation to a pressure vessel of a class referred to in column 1 of Form 3, where the competent person forms the opinion that a more frequent examination is required for the conditions of operation and the class of pressure vessel concerned and he or she shall provide the reason for the opinion in writing to the licensee and user or operator of the vessel.

(5) A competent person shall review his or her opinion made under subregulation (4) where an authorised officer in the course of his or her duties directs that a review is undertaken, and following the review, the licensee may, within thirty days from the date of receipt of the direction of an authorised officer, amend the interval within which an examination may take place.

### **30. Keeping of records and registers of pressure vessels.**

(1) The licensee shall ensure that any report produced under regulation 29—

- (a) is kept for inspection by an authorised officer at the place of work where the pressure vessel is permanently located; and
- (b) in the case of a pressure vessel used at different places of work, is kept at the address of the licensee and is made available to an authorised officer upon request.

(2) The licensee shall ensure that—

- (a) a register of pressure vessels containing details of the equipment, distinguishing numbers, date of first use and date of last examination and testing is established, maintained and kept available for inspection by an authorised officer; and
- (b) if the vessel does not have a distinguishing number or mark for the purpose of identifying the vessel on the register referred to in paragraph (a), that an identification of long lasting duration is provided and placed on the vessel.

### **31. Boilers.**

The licensee shall ensure that—

- (a) boilers with heating unit comply with the requirements stipulated in standards approved by the Authority and best petroleum industry practices;
- (b) heating unit for boilers are supplied with combustion air from non-hazardous areas;
- (c) exhaust gas is conducted to a non-hazardous area and exhaust gas ducts are designed in a manner that ensures that possible sparks from the combustion do not become an ignition source; and
- (d) exhaust gas is to the extent possible conducted away from the

installation, to avoid danger to human health or cause hazardous situations for aircraft traffic or supply vessels.

### **32. Handling and blending of additives and chemicals.**

(1) The licensee shall ensure that additives and chemicals are handled strictly and in accordance with the up-to-date instructions provided by the manufacturer standards approved by the Authority and best petroleum industry practices.

(2) An authorised officer may take and analyse samples of any additives and chemicals found or used in a refinery, conversion plant or other petroleum process plant.

(3) Where the result of any sample taken under subregulation (2) shows that the approved maximum specifications have been exceeded at any time, the licensee shall be required to stop the use of additives and chemicals until the approved specifications are met.

### **33. Analysis of imported stock.**

(1) The licensee shall ensure that the quantity of each imported feedstock, blend stock and additives and details of all analysis carried out by the licensee at a refinery, conversion plant or other petroleum process plant is duly recorded and submitted to the Authority.

(2) Specimens of imports and results of any detailed analysis of the imports, carried out by the licensee at a refinery, conversion plant or other petroleum process plant shall, where the Authority requires, be submitted to the Authority.

### **34. Spillage in refinery, conversion plant or other petroleum process plant.**

(1) Any accidental spillage of petroleum commodities, petroleum products or chemicals inside a refinery, conversion plant or other petroleum process plant shall be notified to the Authority immediately but in any case not later than twenty four hours from the time of the spillage.

(2) The licensee shall, within fourteen days after the accidental

spillage occurs under subregulation (1), submit to the Authority a written report describing-

- (a) the cause and nature of the spillage;
- (b) the 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 National Environment Act, regulations made under section 3(8) of the Act, any other applicable law, standards approved by the Authority and best petroleum industry practices in handling and cleaning up the spillage.

### **35. Removal and transportation of samples and specimens.**

(1) The licensee may, with the approval of the Authority, remove and transport for examination and analysis samples and specimens of crude oils, catalysts, petroleum products or any other materials considered necessary in the course of midstream operations.

(2) The Authority shall be given full particulars of all samples and specimens removed and transported under subregulation (1).

(3) The licensee shall not export samples or specimens out of Uganda except with the written permission of the Authority and subject to conditions specified by the Authority.

### *Equipment Leakage and Breakage*

### **36. Leakage control.**

(1) The licensee shall promptly stop any leaks from piping or other

equipment within the refinery, conversion plant or other petroleum process plant and take measures to prevent the occurrence of leaks.

(2) The licensee shall document any leaks identified under subregulation (1) and submit a report to the Authority within seven days after detection of the leak, indicating measures taken to rectify the leak.

(3) The licensee of an affected facility shall-

(a) if the affected facility is found to be leaking, repair the leak immediately and in any case not more than seven days after the leak is discovered; and

(b) undertake a component recheck after repair and if the leak is still present or a new leak is created by the repair, perform further maintenance until the emissions drops below the screening value of 10,000 ppm.

(4) For purposes of this Part, “affected facility” includes each valve, pump, compressor, pressure relief device, sampling connection system, open-ended valve or line and flange which are in contact with streams containing volatile organic compound.

### **37. Monitoring and reporting requirements.**

(1) The licensee shall conduct monitoring of affected facilities in accordance with the manufacturer’s manual, standards approved by the Authority and best petroleum industry practices and submit records to the Authority.

(2) Pipeline valves and pressure relief valves for gas service shall be marked or noted so that their location is readily obvious to the licensee and any other person performing the monitoring.

(3) Where liquids are observed dripping from a pump seal, the seal shall be checked promptly with a portable detector to determine if a leak of volatile organic compound is present.

(4) Where a relief valve operates and venting to the atmosphere occurs, the licensee shall monitor the valve promptly.

(5) The pressure relief devices which are tied in to either a flare header or vapour recovery device shall be exempted from the monitoring requirements.

(6) When a leak is located, a weatherproof and readily visible tag bearing an identification number and the date on which the leak was identified shall be affixed to the leaking component and the location, tag number, dates and stream composition of the leak shall be noted on a survey log.

(7) When the leak is repaired, the date of repair and instrument reading of component recheck after maintenance shall be entered in the survey log and the tag discarded.

(8) The licensee shall retain the survey log for at least two years after the inspection is completed.

(9) Where the Authority requests, the licensee shall demonstrate to the satisfaction of the Authority why the repairs could not be completed within the initial seven day period.

### **38. Modifications of monitoring schedule.**

(1) The refinery, conversion plant or other petroleum process plant manager shall, determine whether the modifications of the monitoring requirements are necessary, and may request the Authority in writing for approval to revise the monitoring requirements.

(2) The request for approval under subregulation (1) shall include data which has been developed to justify modifications in the monitoring schedule.

(3) Where the Authority finds an excessive number of leaks during an inspection, or where the refinery, conversion plant or other petroleum process plant manager finds and reports an excessive number of leaks in a given area during scheduled monitoring, the Authority may increase

the required frequency of the licensee's inspections for that part of the facility.

(4) Where the Authority is satisfied that the monitoring requirements referred to under subregulation (1) complies with the requirements of the Act and these Regulations, the Authority shall approve the monitoring schedule within fourteen days from the dates of submission by the licensee.

### **39. Test methods and procedures.**

(1) The licensee shall use monitoring and testing methods that meet standards approved by the Authority and best petroleum industry practices.

(2) The licensee may use alternate monitoring methods if it is demonstrated to the satisfaction of the Authority that the alternate methods shall achieve equivalent or higher control efficiency.

### **40. Piping arrangements.**

(1) The piping arrangement shall comply with standards approved by the Authority and best petroleum industry practices for such operations.

(2) In addition to loads prescribed in the standards approved by the Authority and best petroleum industry practices, loads caused by abnormal conditions, such as fluids hammer, shall be taken into account in analysis of load effect.

(3) In analyses of load effect, the licensee shall—

- (a) take into consideration the loads transferred to associated equipment; and
- (b) in the case of piping arrangements on installations with large movements, give special consideration to deformations and movements of the installation under specified environmental conditions.

(4) The licensee shall ensure that provision for future condition monitoring and maintenance is made during design and fabrication.

**41. Pipes and vessels handling high-pressure petroleum commodities or petroleum products.**

(1) The licensee shall ensure that rigid pipes smaller than three-fourths inches is protected if exposed to the hazard of being broken by an externally applied force.

(2) The licensee shall ensure that vessels used for the storage of high pressure petroleum commodities or petroleum products have outage for thermal expansion in accordance with standards approved by the Authority and best petroleum industry practices.

**42. Valves and actuators.**

(1) Valves and actuators shall comply with standards approved by the Authority and best petroleum industry practices and shall be designed to ensure that—

- (a) the valves and actuators can withstand the loads to which they may be subjected; and
- (b) the valves and actuators which are part of an emergency shutdown system are able to resist the dimensioning fire and explosion loads to which they may be subjected.

(2) The licensee shall ensure that valves with great significance to safety are tested in accordance with standards approved by the Authority and best petroleum industry practices.

(3) This regulation shall apply both to function and leakage tests.

**43. Rotating machinery.**

(1) The licensee shall, when choosing rotating machinery, give consideration to reliability, energy efficiency, ease of operation and maintenance, previous experience with the machinery and new technology.

- (2) The licensee shall ensure that—
- (a) rotating machinery comply with standards approved by the Authority and best petroleum industry practices;
  - (b) rotating machinery with components are designed and installed in manner that minimises risk to human health and the environment;
  - (c) rotating machinery with components can at maximum operational load withstand the environmental loads to which it may be subjected;
  - (d) rotating machinery intended to be functioning during accident situations, are protected against destruction by dimensioning loads from fire, explosion or accidents;
  - (e) rotating machinery performing critical functions are fitted with equipment monitoring critical parameters including pressure, temperature and vibrations;
  - (f) foundations with supporting structures have sufficient strength and rigidity to prevent harmful deformations and reduce vibrations;
  - (g) combustion engines are fitted with an automatic device to prevent the engine from over speeding in the event that inflammable gas is sucked into the air inlet;
  - (h) where a water cooled spark arrestor is used, a signal is given in the control room in the event of a water supply failure;
  - (i) combustion engines and turbines are supplied with combustion air from non-hazardous areas;
  - (j) exhaust gas is conducted to non-hazardous areas and exhaust

- gas ducts are designed in a manner that possible sparks from the combustion do not become an ignition source; and
- (k) exhaust gas is to the extent possible, emitted away from the installation to prevent danger to people or cause hazardous situations for air traffic or supply vessels.

#### **44. Loading and unloading facilities and operations.**

(1) The licensee shall put in place measures for and adopt standards for liquid loading and unloading facilities and operations.

(2) The measures referred to under subregulation (1) shall provide mechanisms for preventing and minimising pollution to the environment, accidents and the danger to health and safety of the employees.

#### **45. Handling of samples, laboratories and pilot plants.**

(1) The licensee shall ensure that fired experimental equipment, fired pilot plant units, and unfired equipment which is a part of, and adjacent to the experimental or pilot plant units, are located in an open area or enclosure isolated from unrelated gas or light oil processing equipment.

(2) The requirement of subregulation (1) does not exclude the temporary use of operating equipment for experimental or pilot plant purposes when protection equivalent to isolation is provided.

(3) For purposes of this regulation, “experimental equipment” does not include equipment used in routine testing or analysis.

(4) The licensee shall make provision for handling light oils with a minimum release of gases and vapours.

(5) The licensee shall ensure that safe access is provided to elevated parts of equipment where employees are required to perform work.

(6) The licensee shall ensure that—

- (a) containers of samples, stocks or cuts of light oil required for current operations are kept in a designated place isolated from

- sources of ignition and marked or labelled to identify them as light oil;
- (b) a separate room or building is provided for the storage of samples;
  - (c) samples of light oils not required for current use in the laboratory, but which are preserved, are stored in accordance with paragraph (a);
  - (d) light oil samples are safely disposed of and when sinks are used for the disposal of light oils, the drains to the sinks are properly trapped and vented; and
  - (e) adequate means of extinguishing burning clothing of employees are readily accessible in a laboratory where combustible gases or light oils are exposed to sources of ignition.

### *Reporting*

#### **46. Monthly statement on production.**

The licensee shall forward to the Authority, not later than the fifteenth day of each month, a refinery, conversion plant or other petroleum process plant statement for the previous month in a format prescribed by the Authority.

#### **47. Annual reports.**

The licensee shall within two months after the 31st of December of each year, submit to the Authority three copies of an annual report containing the review of the operations for that year and details of proposed operations for the following year in a form determined by the Authority.

### *Venting and Flaring from the Refinery, Conversion Plant or Other Petroleum Process Plant*

#### **48. Venting and Flaring.**

(1) The licensee shall not vent or flare except in accordance with the Act, these Regulations, regulations made under the National Environment Act, standards approved by the Authority and best petroleum industry practices as part of normal operational safety in the

refinery, conversion plant or other petroleum process plant to ensure that vapours and gases are safely disposed.

(2) The licensee shall estimate flared and vented volumes for new facilities during the initial commissioning period so that fixed volume flaring and venting targets can be developed.

(3) The volumes of gas flared shall be recorded and reported and continuous improvement of flaring through implementation of best petroleum industry practices and new technologies shall be demonstrated.

#### **49. Flare minimisation plan.**

(1) The licensee shall submit to the Authority a flare minimisation plan together with an application for a permit to commence operations.

(2) The flare minimisation plan referred to under subregulation (1) shall contain—

- (a) technical data with a description and technical information for each flare that is capable of receiving gases and the equipment and processes that send gas to the flare;
- (b) planned reductions containing a description of any equipment, processes or procedures that the licensee intends to install or implement to eliminate or reduce flaring in the scheduled year of installation or implementation;
- (c) prevention measures specifying a description and evaluation of prevention measures, including a schedule for the expeditious implementation of all feasible prevention measures;
- (d) feasible alternatives for the use of gas other than through flaring and venting; and
- (e) any other information requested by the Authority as necessary

to enable the determination of compliance with the Act, these Regulations, any other applicable law, standards approved by the Authority and best petroleum industry practices.

(3) The licensee shall update the flare minimisation plan annually.

(4) The licensee who fails to implement and maintain any equipment, processes, procedures or prevention measures in the flare minimisation plan commits an offence.

## **50. Review and approval of flare minimisation plan.**

(1) The Authority shall review and approve a flare minimisation plan submitted by the licensee under regulation 53 before issuing a permit to commence operations.

(2) Where the Authority determines that the proposed flare minimisation plan is not complete, the Authority will notify the licensee in writing.

(3) Upon receipt of the notification under subregulation (2), the licensee shall correct the identified deficiencies and resubmit the proposed flare minimisation plan to the Authority within fourteen days from the date of notification.

## **51. Flare monitoring system.**

The licensee shall maintain a flare monitoring system for the monitoring and determination of flare operating parameters.

*Control of Emissions from the Refinery, Conversion Plant or Other Petroleum Process Plant.*

## **52. Pollution prevention and control measures.**

The licensee shall put in place measures for pollution prevention and control from gas flaring and venting including—

- (a) implementation of source gas reduction measures;
- (b) use of efficient flare tips, and optimisation of the size and number of burning nozzles;

- (c) maximising flare combustion efficiency by controlling and optimising flare fuel, air, steam flow rates to ensure the correct ratio of assist stream to flare stream;
- (d) minimising flaring from purges and pilots, without compromising safety, through measures including installation of purge gas reduction devices, flare gas recovery units, inert purge gas, soft seat valve technology where appropriate, and installation of conservation pilots;
- (e) minimising the risk of pilot blow-out by ensuring sufficient exit velocity and providing wind guards;
- (f) use of a reliable pilot ignition system to ensure that they are in operation when needed;
- (g) installation of high integrity instrument pressure protection systems to reduce over pressure events and avoid or reduce flaring situations;
- (h) installation of knock-out drums to prevent condensate emissions, where appropriate;
- (i) minimising liquid carry-over and entrainment in the gas flare stream with a suitable liquid separation system;
- (j) minimising flame lift off and flame lick;
- (k) operating flare to control odor and visible smoke emissions of no visible black smoke;
- (l) locating flare at a safe distance from local communities and the employees including employee accommodation units;
- (m) implementation of burner maintenance and replacement programs to ensure continuous maximum flare efficiency;

(n) metering flare gas; or

(o) using any other method approved by the Authority.

**53. Equipment sparing and plant turn down protocols.**

The licensee shall make provision for equipment sparing and plant turn down protocols to minimise flaring events as a result of equipment breakdowns and plant upsets and plant reliability shall be at ninety five percent.

**54. Prevention of pollution from fugitive emissions.**

The licensee shall prevent and control fugitive emissions by ensuring that—

- (a) based on review of process and instrumentation diagrams, identification of streams and equipment including from pipes, valves, seals, tanks and other infrastructure components likely to lead to fugitive volatile organic compound emissions is done and their monitoring with vapour detection equipment is prioritised and followed by maintenance or replacement of components as needed;
- (b) the selection of appropriate valves, flanges, fittings, seals, and packing is based on their capacity to prevent gas leaks and fugitive emissions;
- (c) petroleum vapours are either contained or routed back to the process system, where the pressure level allows;
- (d) the use of vent gas scrubbers is considered to remove oil and other oxidation products from overhead vapours in specific units in the facility;
- (e) flaring of gas is conducted at high temperature of approximately 800 °C to ensure complete destruction of minor components including hydrogen sulphide, aldehydes, organic acids and phenolic components and minimise emissions and odor impacts;

- (f) emission from hydrofluoric acid (HF) alkylation plant vents is collected and neutralised for hydrofluoric removal in a scrubber before being sent to flare; and
- (g) naphtha, gasoline, methanol or ethanol, and methyl tertiary butyl ether (MTBE), ethyl tertiary butyl ether (ETBE) or tertiary amyl methyl ether (TAME) loading and unloading stations are provided with vapour recovery units.

**55. Pollution prevention and minimisation measures for Sulfur oxides (SOX).**

The licensee shall put in place measures to prevent pollution from SOX including—

- (a) minimising SOX emissions through desulfurisation of fuels or by directing the use of high-sulphur fuels to units equipped with SOX emission controls;
- (b) recovering sulphur from tail gases using efficient sulphur recovery units;
- (c) installing mist precipitators including electrostatic precipitators or brink demisters to remove sulphuric acid mist;
- (d) installing scrubbers with caustic soda solution to treat flue gases from the alkylation unit absorption towers; and
- (e) using any other measure approved by the Authority.

**56. Particulate matter.**

(1) The licence shall put in place measures to control particulate matter from petroleum refining.

(2) The particulate emissions referred to under subregulation (1) may be associated with flue gas from—

- (a) furnaces;
- (b) catalyst fines emitted from catalyst based processes;

(c) the handling of coke, fines and ash generated during incineration of sludges; or

(d) any other petroleum refining processes.

(3) The licensee shall prevent and minimise emissions from particulate matter in accordance with approved standards and best petroleum industry practices, including by—

(a) installing cyclones, electrostatic precipitators, bag filters, wet scrubbers or any other technology to reduce emissions of particulates from point sources or use of a combination of the techniques to achieve at least 99 percent abatement of particulate matter;

(b) implementation of particulate emission reduction techniques during coke handling, including—

(i) storing coke in bulk under enclosed shelters;

(ii) keeping coke constantly wet;

(iii) cutting coke in a crusher and convey it to an intermediate storage silo or hydrobins;

(iv) spraying the coke with a fine layer of oil, to stick the dust fines to the coke;

(v) using covered and conveyor belts with extraction systems to maintain negative pressure;

(vi) using aspiration systems to extract and collect coke dust;

(vii) pneumatically conveying the fines collected from the cyclones into a silo fitted with exit air filters, and recycling the collected fines to storage; or

(viii) using any other method proposed by the licensee and approved by the Authority.

(4) The licensee shall aim at maximising energy efficiency of process facilities by including opportunities for efficiency improvements in utilities, fired heaters, process optimisation, heat exchangers and motor applications to minimize pollution and energy use.

*Pricing of Petroleum Commodities and Products*

**57. Pricing of petroleum commodity.**

The market price of petroleum commodities in midstream operations shall be determined in a manner prescribed under the Petroleum (Exploration, Development and Production) Regulations, 2016.

**58. Pricing of petroleum products.**

(1) The pricing of refined products produced in Uganda shall be on import parity basis.

(2) The price of refined products shall be determined by the licensee taking into consideration the following price elements—

- (a) international market product price;
- (b) prevailing market price in Uganda;
- (b) Freight Arab Gulf costs to port of reference;
- (c) applicable trader premiums;
- (d) insurance;
- (e) import related port handling and clearance costs; and
- (f) Net transportation supply cost to deliver products to target market.

(3) The Authority shall in accordance with section 40 of the Act approve the gate price of petroleum products determined by the licensee in accordance with subregulation (2).

PART III—LICENSING, DESIGN, CONSTRUCTION AND OPERATION  
OF A PIPELINE

**59. Licence to construct pipeline.**

(1) A person shall not construct a pipeline without a licence issued by the Minister in accordance with the Act and these Regulations.

(2) An application for a licence to construct a pipeline or any other transmission system shall be made to the Minister using Form 4 set out in Schedule 1 and shall be accompanied by the fees prescribed in Schedule 2.

(3) An application made under subregulation (2) shall contain the requirements prescribed under section 10 (6) of the Act.

(4) The Minister may, at any time, by notice in writing served on the applicant, require the applicant to furnish further information, within seven days from the date of the notice or such longer time as the Minister may deem necessary.

(5) The Minister shall, in consultation with the Authority, process the application for a licence expeditiously and in any case, not later than one hundred and eighty days after receipt of the application.

**60. Pipeline routing.**

(1) The licensee shall, prior to selecting a pipeline route, carry out a detailed route survey taking into account—

- (a) geotechnical, topographical and environmental factors; and
- (b) factors that may be of significance to safety during installation and operation of the pipeline system.

(2) The licensee shall, upon completion of the survey, submit the results to the Authority for review and approval.

(3) Where the results of the survey referred to under subregulation

(2) comply with the requirements of the Act and these Regulations, the Authority shall approve the pipeline route within thirty days from the date of submission.

(4) The licensee shall not alter or deviate from the approved pipeline route without the approval of the Authority.

**61. Design of pipeline systems.**

(1) The licensee shall ensure that the design of pipeline systems meet standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall, when designing pipeline systems, ensure integrity of the system by avoiding—

- (a) exceeding the allowable stress values;
- (b) buckling;
- (c) fatigue failure;
- (d) brittle fracture;
- (e) extensive damage to protective coating;
- (f) vertical or horizontal displacement that exceeds the allowable limits;
- (g) propagating ductile structure; and
- (h) any other relevant factors that may be detrimental to the integrity of the system.

(3) The licensee shall, in addition to the design considerations under subregulation (2), ensure that the pipeline system—

- (a) functions satisfactorily during normal operations, with regard to displacements, settlements, vibrations, internal and external corrosion, ageing, wear and other detrimental effects in accordance with standards approved by the Authority and best petroleum industry practices;

- (b) sustains all relevant loads, thermal expansion and contraction loads, load combinations and deformations with satisfactory degree of security against fracture due to yielding, buckling and fatigue in accordance with standards approved by the Authority and best petroleum industry practices;
- (c) offers satisfactory resistance to fractures occurring and propagating; and
- (d) attains and maintains sufficient stability.

(4) The design of the pipeline system shall take into account the need for examination and maintenance.

(5) The Authority may require the licensee to involve authorised officers during the design phase for reasons that the Authority may specify.

(6) The licensee shall, during the Front End Engineering and Design (FEED) and the detailed design phases of the pipeline system, submit the following documents to the Authority for approval—

- (a) a pipeline route map;
- (b) design of the associated facilities;
- (c) project execution strategy or quality assessment including—
  - (i) procedures for installation, testing, inspection, maintenance and repair;
  - (ii) quality control programs;
  - (iv) the project implementation schedule;
  - (v) procedures for metering petroleum commodities or petroleum products;

- (vi) plan for storage facilities including design lay-out; and
- (e) safety considerations including—
  - (i) control and instrumentations systems including alarms, fire and gas systems, and emergency shutdown system;
  - (ii) hazard and operability (HAZOP) report;
  - (iii) safety analysis function evaluation (SAFE) chart;
  - (iv) Hazard Identification (HAZID) and risk assessment report;
  - (v) cause and effect diagrams; and
  - (vi) safety equipment layout; and
- (f) any other relevant information as the Authority may determine.

(7) The licensee shall, prior to the commencement of construction, submit to the Authority final designs of the pipeline for approval.

(8) Where the Authority identifies any material deficiencies, errors or omissions in the design submitted by the licensee under subregulation (7), the Authority shall notify the licensee within twenty one days of receipt of the design of such deficiencies, errors or omissions.

(9) Where the Authority notifies the licensee under subregulation (8), the licensee shall rectify the deficiencies, errors or omissions within the period specified in the notice and resubmit the design to the Authority for approval.

(10) Where the design submitted by the licensee under subregulation (7) or resubmitted under subregulation (9) meets the requirements of the Act, these Regulations, standards approved by the Authority and any other applicable law, the Authority shall approve the

design within twenty one days from the date of submission by the licensee.

(11) Where the Authority does not notify the licensee of any errors in the design within twenty one days of receipt of the design, the licensee may commence construction and installation of the facility based on the design.

(13) Subregulation (11) is only applicable where the licensee submits the design in a manner approved by the Authority and has proof of acknowledgement of receipt of the notification by the Authority.

## **62. Safety consideration in design of pipeline system.**

(1) The licensee shall ensure that the design of a pipeline system or any substantial modification to the pipeline system takes into account the operating conditions for the pipeline, the conditions under which petroleum commodities or petroleum products are to be transmitted and the environment to which the pipeline system will be subjected.

(2) The licensee shall ensure that petroleum commodities or petroleum products are not transmitted in the pipeline system unless it has been designed so that it can withstand—

- (a) both internal and external loads arising from its operation; and
- (b) any chemicals to which it may be subjected.

## **63. Protection systems.**

(1) The licensee shall ensure that-

- (a) pipeline systems are fitted with protection systems providing protection against corrosion, erosion and other deterioration during storage, installation and operation; and
- (b) parts of pipeline systems with difficult accessibility for survey and maintenance are subject to special consideration with regard to the choice of protection system.

(2) The licensee shall, when considering the need for internal protection, give consideration to the choice of materials, corrosive

properties of the transported medium and erosion aspects and possible changes over time.

**64. Flow assurance.**

(1) The licensee shall develop and submit to the Authority for approval a flow assurance plan detailing methods and monitoring procedures.

(2) The licensee shall ensure that the design of a pipeline allows for the conduct of periodic flow assurance inspections.

*Construction of Pipelines*

**65. Construction of a pipeline.**

(1) The licensee shall ensure that pipes and components of a pipeline system are fabricated in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall, at the completion of fabrication, employ an independent person to compile a quality control report and to verify and confirm that the construction and installation work was done in accordance with standards approved by the Authority and best petroleum industry practices.

(3) A report of the quality control inspection carried out under subregulation (3) shall be submitted to the Authority for approval.

**66. Construction and installation.**

(1) During construction and installation of a pipeline system, the licensee shall ascertain that the loads to which the pipeline system is subjected fall within the design assumptions.

(2) The licensee shall ensure that—

(a) fluid is not transmitted in a pipeline except for the purpose of testing it, unless it has been constructed and installed to be sound and fit for the purpose for which it has been designed;

- (b) a pipeline which has been properly designed, is fabricated, constructed and installed in a manner to reflect the design; and
- (c) during the installation, design considerations including the location of the pipeline, depth of cover, need for supports or anchors, and extra protection at vulnerable locations are adhered to.

(2) Where the Authority requires, the licensee shall submit to the Authority procedures used by the licensee for the construction and installation of the pipeline.

(3) The licensee shall use construction techniques appropriate to both the location of the pipeline and the type of pipeline being constructed.

(4) The installation shall be carried out in accordance with standards approved by the Authority and best petroleum industry practices.

**67. Use of suitable materials for construction of pipeline.**

(1) The licensee shall ensure that—

- (a) all materials of construction specified in the design of, and in any subsequent substantial modifications to the pipeline are suitable for the intended purpose;
- (b) the material used for construction of a pipeline are able to withstand the physical and chemical conditions of the petroleum commodities or petroleum products to be transmitted under the operating conditions for which the pipeline has been designed; and
- (c) petroleum commodities or petroleum products are not transmitted in a pipeline unless it is constructed with suitable material.

(2) Any changes to the petroleum commodities or petroleum products to be transmitted or the operating conditions of the pipeline,

including an extension of the pipeline design life, shall require a reassessment by the licensee of the pipeline material to ensure it is capable of transmitting petroleum commodities or petroleum products fluid safely.

(3) The licensee may apply to the Authority in writing for approval of proposed changes in the operating conditions including changes to the corrosion protection system which may affect corrosion rates and the design life and integrity of the pipeline system.

(4) Where the Authority is satisfied that the application submitted under subregulation (3) complies with the requirements of the Act and these Regulations, the Authority shall approve the application within thirty days from the date of receipt of the application.

#### **68. Prohibition of construction in an area adjacent to pipelines.**

(1) A person shall not undertake any activity in an area adjacent to a pipeline system without the written consent of the Authority, in consultation with the licensee.

(2) A person who wishes to undertake an activity referred to under subregulation (1), shall apply to the Authority in writing for approval.

(3) The Authority may, refuse to give consent and where the Authority gives consent, the Authority may attach conditions to the consent.

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

#### **69. Removal of pipeline constructed in contravention of the Act and these Regulations.**

(1) Where—

(a) the construction of a pipeline is commenced, continued or completed in contravention of the Act or these Regulations; or

(b) a pipeline is altered or reconstructed in contravention of the

Act and these Regulations, the Authority may, by notice in writing served on the licensee, direct the licensee—

- (i) to make such alterations to the pipeline as may be specified in the notice; or
- (ii) to move the pipeline to a specified place in, or to remove it from, the adjacent area, within the period specified in the notice.

(2) Where the licensee who is served with a notice under subregulation (1) does not comply with the direction within the period specified in the notice or such further period as the Authority may determine on application made by the licensee before the expiration of the time specified in the notice, the Authority may do all or any of the things required by the direction to be done.

(3) The costs and expenses incurred by the Authority under subregulation (2) shall be recovered from the licensee in accordance with the relevant applicable law.

### *Operation of Pipeline*

#### **70. Licence to commence operation of pipeline.**

(1) Following the completion of construction of a pipeline or substantial modification of a pipeline to the satisfaction of the Authority, the licensee shall apply to the Minister in writing for a licence to operate the pipeline.

(2) The application shall contain proof that the Authority has inspected and is satisfied with the pipeline facility as required by section 20 (2) of the Act.

(3) The Minister shall in accordance with section 20 (2) of the Act and these Regulation grant the licensee a licence to operate the pipeline allowing the licensee to commence operation of the pipeline.

## **71. Permit to commence operations of the pipeline.**

(1) Following the completion of construction of a pipeline or substantial modification of a pipeline, the licensee shall notify the Authority in writing of the completion of construction or substantial modification and shall append to such notification the documentation set out in subregulation (4).

(2) Prior to notifying the Authority under subregulation (1), the licensee shall appoint an independent health, safety and environment auditor to carry out an inspection and audit of the pipeline.

(3) The Authority shall carry out physical inspection and may conduct an audit of the pipeline to ascertain conformance with approved design, standards approved by the Authority and best petroleum industry practices before granting the operation permit.

(4) The following shall be the pre-requisites for the operation permit—

- (a) documentation to show that the pipeline facility has been designed, fabricated and function tested in accordance with the requirements of Act, these Regulations, standards approved by the Authority and best petroleum industry practices;
- (b) reference to standards and documentation prepared in accordance with the standards approved by the Authority which may be included as a part of the licensee's own documentation;
- (c) a report of the independent health, safety and environment auditor appointed by the licensee under subregulation (3);
- (d) confirmation by the licensee that a qualified pipeline manager has been appointed by the licensee;
- (e) organisation structure and schedules of duties for management staff;
- (f) confirmation by the licensee of completion of all fiscalisation

equipment and systems to standards approved by the Authority and best petroleum industry practices;

- (g) proof of availability of operating manuals, maintenance manuals, mechanical catalogues, supplied by the manufacture, subject to appropriate substantial modifications after commissioning;
- (h) proof of the licensee's safety policy and Safe Operating Procedures (SOPS);
- (i) proof of operating and maintenance schedule in place and availability of trained manpower;
- (j) functional and effective emergency plan including a fire prevention and firefighting plan and equipment in place;
- (k) functional and effective safety enforcement plan and policies already in existence;
- (l) three copies of engineering drawings and a soft copy supplied by the contractor, indicating any substantial modifications made during construction;
- (m) confirmation by the licensee of the existence of an adequately staffed and equipped First Aid facility;
- (n) confirmation by the licensee that an effective and international applicable materials codification and management system is in place;
- (o) confirmation by the licensee that environmental laws have been complied with;
- (p) confirmation by the licensee that all other provisions, which are reasonably required to facilitate effective commissioning of the pipeline, have been made;

- (q) evidence of payment of the fees prescribed in Schedule 2; and
- (r) any other information the Authority may require to facilitate effective commissioning of the pipeline system.

(5) Where the Authority is satisfied after carrying out the inspection and audit under subregulation (3) and with the documents submitted by the Authority under subregulation (4), the Authority shall grant the licensee a permit to commence operations of the pipeline in accordance with section 20 (3) of the Act and these Regulations.

(6) Where the Authority is not satisfied after carrying out the inspection and audit under subregulation (3) or with the documents submitted by the licensee under subregulation (4), the Authority shall require the licensee to carry out additional works on the pipeline or to submit additional information within twenty one days from the date of the inspection or audit under subregulation (3) or from the date of receipt of documentation under subregulation (4).

(7) For the avoidance of doubt, an operation licence or operation permit is not required for non-destructive tests or holyday test to be conducted by the licensee prior to completion of construction to test the functionality of the pipeline.

### *Pressure Testing*

## **72. Pressure test before commencement of pipeline operations.**

- (1) A licensee shall not commence operation of a pipeline unless—
  - (a) a pressure test satisfactory to the licensee has been completed in accordance with these Regulations, standards approved by the Authority and best petroleum industry practices;
  - (b) the pipeline test pressure has been reduced to a level no greater than the proposed maximum operating pressure and, if necessary, the pipeline has been purged; and

(c) all tie-ins necessary for initial start-up operations have been completed and inspected.

(2) The licensee shall notify the Authority at least forty eight hours prior to the commencement of any pressure test.

**73. Conditions for pressure testing, safety and reporting.**

(1) The licensee shall carryout pressure test on a pipeline that will be buried during operation with the full depth of earth cover applied.

(2) The licensee shall determine the length of pipeline to be tested.

(3) The licensee shall conduct a pressure test in a manner that will ensure the protection of persons, property and the environment in the vicinity of the pipeline system.

(4) The licensee shall, immediately but in any case not later twenty four hours, notify the Authority of any leak or break that occurs in a pipeline system during pressure testing.

**74. Recording pressure test results.**

(1) The licensee's record or chart of a pressure test shall be continuous and legible over the full test period, with the commencement and termination points of the test identified.

(2) The licensee may use electronic pressure-recording instruments where—

(a) a permanent paper copy of the test data is retained; and

(b) the sampling rate and instrument sensitivity are sufficient to properly identify the expected deviations from normal test pressure.

(3) The licensee shall ensure that—

(a) instrument used to record during a pressure test are selected so

that the pressure reading occurs between 25% and 90% of the full range of the instrument;

- (b) the range of the pressure-recording instrument referred to in paragraph (a) is recorded on the chart face or on the permanent paper copy of the test data; and
- (c) each pressure-recording instrument is periodically calibrated to maintain accuracy to within 2% of its range, and the Authority may require verification of such calibration.

**75. Unsatisfactory test.**

Where evidence of satisfactory testing is not provided to the Authority on request, the Authority may order that the pipeline system be—

- (a) de-pressurised;
- (b) purged, if necessary; or
- (c) pressure tested in accordance with standards approved by the Authority and best petroleum industry practices.

**76. Pressure testing above 100% specified minimum yield strength (SMYS).**

Where a pipeline system is to be tested at a pressure that would cause a hoop stress greater than 100% specified minimum yield strength (SMYS), the licensee shall—

- (a) develop a detailed test procedure and submit a copy to the Authority; and
- (b) prior to pressure testing, develop a detailed plan for spill containment and cleanup that can be implemented in the event of a leak or break and submit a copy of the plan to the Authority.

**77. Pressure near test head assembly.**

The test pressure for any part of a pipeline system that is within twenty

metres of the connection with the test head assembly shall be limited to a hoop stress level not greater than ninety percent specified minimum yield strength (SMYS).

**78. Minimum test pressure.**

The licensee shall develop and submit to the Authority a minimum test pressure procedure.

**79. Hydrogen sulphide gas prohibited in test medium.**

The licensee shall not use gas containing hydrogen sulphide as a test medium.

**80. Retest.**

The Authority may require a pipeline system to be retested if the pipeline is not operating in accordance with standards approved by the Authority and best petroleum industry practices.

**81. Operation of pipeline.**

(1) The pipeline system shall be operated in compliance with the Act, these Regulations, other regulations made under the Act, standards approved by the Authority, best petroleum industry practices and any other applicable law.

(2) The licensee shall, in consultation with the Authority, draw up safe operating limits, reflecting the pipeline system design, its operating history and its current and future condition, and ensure that it is operated and controlled within those limits.

(3) The licensee shall submit to the Authority for approval a code of operations for the pipeline.

(4) The licensee shall, by 31st of January of each year, prepare and submit to the Authority an annual program of operations for approval.

(5) The annual program referred to under subregulation (4) shall contain—

- (a) operation and maintenance manuals, if modified;
- (b) maintenance schedules;
- (c) HAZOP and HAZID, if modified; and
- (d) risk assessment and risk management.

(6) The licensee shall ensure that -

- (a) there is proof of testing of the pipeline to ensure that it is sound and fit for purpose;
- (b) petroleum commodities or petroleum products are not transmitted in a pipeline unless the safe operating limits of the pipeline have been established; and
- (c) a pipeline is not operated beyond its safe operating limits.

(7) The pipeline operating conditions including minimum and maximum operating temperature and pressure shall be in compliance with standards approved by the Authority and best petroleum industry practices.

(8) Where the Authority is satisfied that the code of operations referred to under subregulation (3) complies with the requirements of the Act and these Regulations, the Authority shall approve the code of operations within thirty days from the date of submission to the Authority.

## **82. Expansion or substantial modification of pipeline.**

(1) The licensee shall not make any changes in the installations of a pipeline except with the prior to written approval of the Minister.

(2) An application to alter or substantially modify any pipeline or any of the units in the pipeline or change the normal use of the pipeline or any unit of the pipeline shall be in Form 5 set out in Schedule 1 and shall be accompanied by a fee prescribed.

(3) Where the Minister is satisfied that the application submitted under subregulation (2) complies with the requirements of the Act and these Regulations, the Minister shall approve the application within sixty days in case of an application to alter or substantially modify a pipeline or change the normal use of the pipeline and within fourteen days in case of an application to alter any unit of the pipeline, from the date of application

(4) Any proposed substantial modification or expansion of an existing pipeline shall be done in accordance with Act, these Regulation and standards approved by the Authority and best petroleum industry practices for such operations.

(5) The licensee shall ensure that any alteration, substantial modification, maintenance, inspection or other major works on a pipeline system, is carried out in a way that its soundness and fitness for the purpose for which it has been designed is not prejudiced.

### **83. Emergency work on pipeline systems.**

(1) Pipeline works required to put an end to existing danger or to prevent imminent danger to life, property or environment or to prevent serious interruption of the transmission of petroleum commodities or petroleum products by the pipeline may be executed without prior notification to the Authority.

(2) Where the licensee undertakes an emergency work on a pipeline under subregulation (1), the licensee shall notify the Authority of the emergency works within twenty four hours of the commencement of works and a copy of the map showing the location of the pipeline works and details of the works shall also be submitted to the Authority as soon as practicable but in any case, not later than fourteen days from the date of commencement of the emergency works.

(3) Where the Authority is satisfied that the pipeline works executed under this regulation do not meet standards approved by the Authority and best petroleum industry practices, the Authority may require rectification measures within a period as may be specified by the

Authority in writing.

**84. Maintenance of pipeline system.**

(1) The licensee shall prepare and submit to the Authority for approval an annual maintenance plan for the pipeline system.

(2) The annual maintenance plan referred to under subregulation (1) shall include periodic and scheduled maintenance of the pipeline system to secure its safe operation.

(3) Where a pipeline system has been out of use for scheduled maintenance or any other reason, the licensee shall conduct detailed assessment of the condition of the pipeline system and submit the report to the Authority before commencement of operations.

**85. Disruption of continuous operation of a pipeline.**

(1) The licensee shall notify the Authority in writing, thirty days before any planned shut-down.

(2) The licensee shall immediately notify the Authority in writing—

- (a) on the occurrence of any operational incident resulting in an emergency shut-down of the pipeline or any part of the pipeline or resulting in putting out of use of any installation; or
- (b) on the occurrence of any other emergency resulting in the shut-down or putting out of use under section 68 (1) of the Act.

(3) The notice under subregulation (2) shall state—

- (a) the reasons for the unplanned shut-down or putting out of use, its estimated duration and its possible effect on the operation of a pipeline; and
- (b) the steps, if any, the manager has taken or proposes to take to avoid a recurrence of the incident or circumstances that gave rise to the shut-down or putting out of use.

**86. Suspension of pipeline works.**

(1) The Minister may, where he or she considers necessary for safety reasons, by notice served on the licensee, suspend the construction of the pipeline system or of any length of the pipeline specified in the notice and the execution of the works, otherwise than in such a manner as may be specified in the notice.

(2) Where a person on whom a notice is served under subregulation (1) objects to the notice, makes a counter-notice objecting to the Minister's notice within twenty one days from the date on which the notice was served, the Minister shall invite the person to appear before a person appointed by the Minister for the purpose.

(3) The person appointed by the Minister shall consider the objection and make a report to the Minister.

(4) A person who fails to comply with the notice commits an offence.

#### **87. Damage to pipeline system.**

(1) A person shall not damage, attempt to damage or carry out any act likely to damage a pipeline system.

(2) The licensee shall, with the approval of the Authority, inform the owner, occupier, tenant, community or any other person within the vicinity of the pipeline system, of the existence of the pipeline system and make information available, where appropriate, regarding the location of the pipeline.

(3) The licensee shall, when carrying out maintenance or any other activity on the pipeline system, ensure that the pipeline system is not damaged or left in such a manner that may cause harm or injury to the environment or human life.

(4) A third party having access to a pipeline system shall not interfere with normal operations of the pipeline or damage the pipeline system.

(5) A person who damages a pipeline system shall report to the licensee and the Authority immediately and in any case not later than six hours from the time of the damage.

(6) Where pipelines are in parallel, the licensee shall ensure that each pipeline is clearly identified and marked.

(7) The licensee shall, survey the pipeline routes every six months to check on operations, activities or condition that might affect the integrity of the pipeline system and submit the survey report to the Authority upon the completion of each survey.

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

*Third Party Access to Pipeline Systems.*

**88. Third party access to pipeline systems.**

(1) Third party access to pipeline systems shall be governed by the Act and these Regulations.

- (2) In granting access to third parties, the licensee shall—
- (a) ensure that infrastructure safety, integrity and environmental protection is upheld;
  - (b) provide adequate information to any third party intending to use the pipeline system;
  - (c) expedite the negotiations for access to the pipeline system;
  - (d) be transparent and non-discriminatory in granting access to the pipeline system; and
  - (e) provide fair tariffs calculated in accordance with a methodology set by the Authority in accordance with Schedule 3 and fair terms of access.

(3) Where applicable, the licensee shall submit to the Authority for approval its guidelines for third party use of the pipeline system within the first year of operations of the pipeline which shall include—

- (a) method by which a third party may request access;
- (b) technical requirements for access to the pipeline system;
- (c) method by which the tariffs are calculated;
- (d) contractual terms and conditions regarding use and payment; and
- (e) any other requirements regarding third party access to the pipeline system.

(4) The guidelines referred to in subregulation (3) shall be consistent with these Regulations.

### **89. Application for third party access.**

(1) A person who intends to have access to the licensee's pipeline systems shall apply in writing to the licensee for the grant of access to the licensee's un-committed capacity and notify the Authority.

(2) A person who applies to the licensee under subregulation (1) shall—

- (a) be a company incorporated or registered under the laws of Uganda; and
- (b) comply with the licensee's approved access standards and criteria.

### **90. Grant of third party access.**

(1) The licensee shall, upon application being made under regulation 89, grant access to the uncommitted capacity of its pipeline system in accordance with the Act and these Regulations.

(2) Where a licensee refuses to grant third party access to an applicant, it shall notify the applicant specifying the reasons for its refusal.

(3) Where the applicant is dissatisfied with the licensee's decision under subregulation (2), the applicant may within fifteen days apply to Authority for redress.

(4) The Authority may require the licensee to grant its uncommitted pipeline capacity to a third party where—

- (a) the licensee refuses to grant access to the pipeline system upon application being made by a third party;
- (b) the licensee contends that it does not have uncommitted capacity and the Authority has determined to the contrary; or
- (c) the licensee and the applicant have failed, within ninety days from the date of application to agree on the terms of the third party access.

(5) The Authority shall, in determining the uncommitted capacity for a pipeline system under subregulation (4) (b), consider the following elements—

- (a) contractual commitments of the pipeline licensee;
- (b) alteration or substantial modifications in pipeline capacity from one segment to another;
- (c) temperature and pressure differences;
- (d) load profile and swing requirements;
- (e) petroleum commodities and products specifications; and
- (f) whether or not capacity allocations are being used to limit third party access to the pipeline systems.

(6) The Authority shall, prior to requiring the licensee to grant access to a third party under subregulation (4)—

- (a) inquire into the reasons advanced by the licensee in refusing to grant the third party access; and
- (b) evaluate the applicant's technical, economic and financial capabilities.

(7) Where the Authority requires the licensee to grant access to a third party, the licensee shall comply within such a time as may be stipulated by the Authority.

### *Ground Disturbance*

#### **91. Ground disturbance in absence of pipeline right of way.**

A person other than the licensee shall not undertake a ground disturbance within six metres from the pipeline system where there is no pipeline right of way without the approval of the Authority.

#### **92. Preparation for ground disturbance.**

(1) A person proposing to undertake a ground disturbance within the area surrounding the pipeline system shall take the precautions necessary to ascertain whether a pipeline system exists before commencing any work, operation or activity within thirty meters from the pipeline right of way.

(2) A person proposing to undertake a ground disturbance within the controlled area of the pipeline system shall notify the licensee and Authority in writing at least ten days prior to commencing the ground disturbance for approval.

(3) The Authority shall notify the licensee of the intent to disturb the ground and request that the licensee identifies and marks the location of the pipeline system in accordance with standards approved by the Authority and best petroleum industry practices.

(4) The identification and marking referred to in subregulation (3) shall be provided within fourteen days after the licensee is notified by the Authority of the proposed ground disturbance unless a time period is agreed to by the licensee and the person proposing to undertake the

ground disturbance.

(5) The licensee shall provide documentation of the pipeline system markings to the person proposing to undertake the ground disturbance.

(6) A person shall not proceed with a ground disturbance within the controlled area of a pipeline system until the locating and marking of the pipeline system has been completed.

(7) Marking and identification of the pipeline system shall not be required where—

- (a) the ground disturbance is proposed to be undertaken in the controlled area outside the right of way of an existing pipeline;
- (b) the right of way or pipeline system is clearly separated from the proposed ground disturbance by a fence, highway, road or other visible improvement; or
- (c) the exemption from the marking and identification is agreed to by the licensee of any affected pipeline system with the prior approval of the Authority.

(8) The notification time referred to under subregulation (2) and the marking and identification requirement shall not apply if a ground disturbance is undertaken in connection with—

- (a) the restoration of essential public services in an emergency; or
- (b) the containment of an environmental emergency,

and alternative notification, location and excavation procedures are agreed to by the licensee of any affected pipeline.

### **93. Erection of temporary fencing.**

(1) Before commencing a ground disturbance in the controlled area of the pipeline system where uncontrolled access over the pipeline may arise and cause damage to the pipeline system, the person responsible for

the proposed ground disturbance shall erect temporary fencing of the pipeline right of way to limit access.

(2) When necessary, the temporary fencing under subregulation (1) shall allow for crossings of the pipeline right of way.

(3) The location of crossings and the precautions to be taken to protect the pipeline systems from damage at those locations shall be determined and agreed to by the licensee and the person responsible for the proposed ground disturbance, and where the parties fail to agree, either party may apply to the Authority for a decision and the decision of the Authority shall be final.

#### **94. Approval of ground disturbance.**

(1) When approval for a ground disturbance is requested from the Authority, the Authority shall respond in writing within twenty one days from the date of receipt of the request.

(2) An approval granted by the Authority under subregulation (1) may contain such terms and conditions as the Authority considers appropriate in the circumstances.

#### **95. Duties of licensee and person undertaking ground disturbance.**

(1) The licensee of an existing pipeline who has been notified of a proposed ground disturbance shall—

- (a) have a competent person to inspect the pipeline system before the commencement of the ground disturbance to ensure that the identification and marking referred to in regulation 92 have been properly carried out;
- (b) ensure that the competent person referred to in paragraph (a) has in his or her possession when on the site of the ground disturbance a copy of the written approval for the ground disturbance given by the Authority;
- (c) ensure that the competent person has completed a supervisory

level training course in ground disturbance practices and is currently certified to supervise a ground disturbance; and

- (d) carry out any inspections of the ground disturbance that are necessary to ensure the continued safety of the pipeline system.

(2) The person responsible for ground disturbance shall keep all pipeline warning signs or markers visible and legible for the duration of the ground disturbance and shall replace or relocate them if necessary and notify the Authority.

(3) A person undertaking a ground disturbance who exposes any part of a pipeline system shall notify the licensee at least five days prior to backfilling the pipeline, and on being so notified, a competent person employed by the licensee shall inspect the exposed part of the pipeline system before backfilling to ensure that no damage has occurred.

(4) The licensee shall retain a record of any replacement or relocation of the pipeline warning signs or markers and of any inspections conducted under subregulation (3) for a period of two years from the date the record is made and shall submit a copy of the record to the Authority.

## **96. Safety of adjacent pipeline.**

The Authority may require that an existing pipeline system located adjacent to a ground disturbance in the controlled area of the pipeline system be depressurised, operated at a reduced pressure or otherwise protected throughout the period of the ground disturbance.

## **97. Exposing of a pipeline during ground disturbance.**

(1) An employee of the licensee shall be present at the time the pipeline is being exposed.

(2) A person proposing to undertake a ground disturbance that will cross or be carried out within 6 metres of an existing pipeline system shall, before commencing any mechanical excavation, locate and expose

the existing pipeline by hand excavation or any other method approved by the Authority.

(3) The licensee may permit the person undertaking the ground disturbance to use hand excavation procedures.

(4) After the pipeline system has been located in accordance with this regulation, a person shall not use or cause to be used mechanical excavation equipment within six meters of the pipeline system or within any distance beneath a pipeline, except under the direct supervision of a competent person employed by the licensee of the existing pipeline system.

(5) Where a proposed ground disturbance is likely to be parallel to and within six metres of a pipeline system, the pipeline system may be exposed at intervals along the pipeline system, with the length of the intervals being at the discretion of the licensee of the existing pipeline system or at the direction of the Authority.

(6) Where a pipeline system is to be exposed by the licensee, the licensee may make written application to the Authority for approval to use pipeline exposure procedures other than those referred to under this regulation.

(7) Where the Authority is satisfied that the application referred to under subregulation (6) complies with the requirements of the Act and these Regulations, the Authority shall approve the application within seven days from the date the application was submitted to the Authority.

### **98. Vehicles crossing pipeline system.**

A person shall not operate a vehicle or equipment across a pipeline system at a point that is not within the upgraded and travelled portion of a highway or public road without obtaining approval of the Authority.

## **PART IV—TRANSMISSION OF PETROLEUM COMMODITIES AND PRODUCTS IN BULK BY ROAD, RAIL OR WATER**

### **99. Licence to transmit petroleum commodities or petroleum products by road, rail or water.**

(1) A person shall not transmit petroleum commodities or petroleum products by road, rail or water without a licence issued by the Minister in accordance with the Act and these Regulations.

(2) An application for a licence to transmit petroleum commodities or petroleum products by road, rail or water shall be made to the Minister using Form 6 prescribed in Schedule 1 and shall be accompanied by the fees prescribed in Schedule 2.

(3) The application for a licence to transmit petroleum commodities or petroleum products by road, rail or water shall, as applicable, contain the requirements listed under section 10 (6) of the Act and any other requirement that the Minister may deem necessary.

(4) An application for a licence under this regulation shall in addition to the requirements under subregulation (4) contain, where applicable, a plan for the construction, placing, operation and use of facilities for transmission of petroleum commodities or petroleum products in bulk.

(5) The Minister may, in consultation with the relevant government ministry, department or agency and on specified conditions, grant a licence to transmit petroleum commodities or petroleum products in bulk by road, rail or water.

(6) A licence may be granted for a fixed period of time, and may be renewed, on application to the Minister, subject to such terms and conditions as the Minister may determine.

*Transmission of Petroleum Commodities or  
Petroleum Products in Bulk by Rail*

**100. Transmission of bulk petroleum commodities or petroleum products by rail.**

(1) Subject to the requirements of the Act, these Regulations, any other applicable laws, standards approved by the Authority and best petroleum industry practices, bulk petroleum commodities or petroleum products may be transmitted by rail, provided the following are

satisfied—

- (a) only railway steel wagons are used;
- (b) layers of matting or other suitable dunnage are-
  - (i) placed on the floor of the wagon;
  - (ii) placed between each tier or compartment; and
  - (iii) packed between the outer rows of compartments and the sides of the wagon;
- (c) each wagon is loaded to prevent the movement of the compartments in transit;
- (d) the level of the topmost compartment does not exceed the lowest height of any of the sides of the wagon;
- (e) at least two wagons containing non-flammable goods are in every train transmitting petroleum commodities or petroleum products attached between the railway engine and any wagon loaded with petroleum commodities or petroleum products;
- (f) passenger coaches and wagons loaded with petroleum commodities or petroleum products do not form part of one railway train except if authorised in writing by the Authority in consultation with the Uganda Railways Corporation or any other relevant government ministry, department or agency;
- (g) notices strictly forbidding smoking, the carrying of matches and unprotected lights within sixty feet of a wagon loaded with petroleum commodities or petroleum products are conspicuously painted or displayed on the wagon;
- (h) an unauthorised person is not permitted to ride on the wagon;

- (i) the wagon is not halted within sixty feet of a fire or open flame;
- (j) the guard's van of all trains transmitting petroleum commodities or petroleum products are at all times supplied with a fire extinguishing appliance of a type suitable for fighting a petroleum fire, ready and available for immediate use in case of fire; and
- (k) any other relevant information as the Authority may deem necessary is provided.

(2) The Authority may, in consultation with the Uganda Railways Corporation or any other relevant government ministry, department or agency, refuse to authorise the transmission of petroleum commodities or petroleum products by rail unless the conditions specified in subregulation (1) have been satisfied.

**101. Minimum vapour space for tank wagons.**

The minimum vapour space for tank wagons carrying different classes of petroleum commodities or petroleum products shall be as follows—

- (a) Class A petroleum - 4 percent; and
- (b) Class B and C petroleum- 2.5 percent.

*Transmission of Bulk Petroleum Commodities  
or Petroleum Products by Road*

**102. Transmission of petroleum commodities or petroleum products in bulk by road.**

(1) A person shall not transmit petroleum commodities or petroleum products in bulk by road except in a tank vehicle which complies with the provisions of these Regulations.

- (2) The licensee shall not tow a trailer behind a tank vehicle

licensed for the carriage of petroleum commodities or petroleum products in bulk without a permit granted by the Authority for the use of the trailer on routes to be specified in the permit, and a permit shall not be valid on routes other than those specified in the permit.

(3) Where the trailer referred to under subregulation (2) is to carry class “A” petroleum commodities or petroleum products in bulk, the construction of the trailer and of the tank fittings shall comply with these Regulations, standards approved by the Authority and best petroleum industry practices covering tank vehicles and their fittings on self-propelled bulk vehicles.

(4) The licensee shall ensure that—

- (a) a tank vehicle is maintained in good condition and has the words “Highly Flammable” conspicuously placed on the rear end of the tank in letters in contrasting colours not less than four inches high in an air space of at least 21/2 percent of a tank’s total capacity is left in a tank when filled with petroleum commodities or petroleum products;
- (b) the body of a tank vehicle, including its fittings, are strongly constructed of fire-resisting materials; and timber shall not be considered as a fire-resisting material except when used for tank mountings;
- (c) the tank, if not a component part of the frame of the vehicle, is securely attached to the vehicle;
- (d) a tank vehicle is earthed at all times in accordance with standards approved by the Authority and best petroleum industry practices;
- (e) when the capacity of a tank vehicle exceeds six thousand litres, the tank is divided into self-contained compartments;
- (f) a single compartment does not contain an amount of petroleum commodities or petroleum products exceeding six

thousand litres; and

- (g) a compartment, the capacity of which exceeds three thousand litres, is fitted with baffle plates in a manner that ensures that all possibility of excess surge is eliminated.

### **103. Condition of tank vehicles.**

(1) The engine, fuel tank and electric batteries of a tank vehicle used for transmission of petroleum commodities or petroleum products in bulk shall be effectively screened from the tank in accordance with standards approved by the Authority and best petroleum industry practices.

(2) A space of not less than six inches between the tank vehicle and the fire-resisting shield shall be left clear and unobstructed except for any part of the framework or valances used to screen the sides of the tank, provided that—

- (a) the end of the valances is insulated from the shield by a layer of heat-resisting material; and
- (b) the valances are turned inwards so as to obstruct the space between the tank and the shield.

(3) Notwithstanding subregulation (1), the fuel tank of a vehicle may be situated behind the shield if—

- (a) a fuel apparatus fixed in front of the shield is used to lift the contents from the fuel tank;
- (b) the fuel tank is protected by the frame or by stout steel guards and the filling hole cover is provided with a lock; and
- (c) the fuel used in the engine does not give off a flammable vapour at a temperature of less than sixty five degrees Celsius.

(4) Notwithstanding subregulation (1), the electric batteries of a

vehicle used for transmission of petroleum commodities or petroleum products may be situated behind the shield if the batteries are encased in fire-resisting material and are adequately ventilated and the terminals are securely fastened.

(5) The entire exhaust system of the tank vehicle shall be in front of the shield.

(6) A quick action cut-off valve shall be fitted to the engine fuel-feed pipe in a clearly marked accessible position.

(7) This regulation does not apply to a vehicle in which gravity feed tank is not incorporated in the fuel-feed system and the fuel-feed pump is driven directly by the engine of the vehicle or by electricity with a cut-off switch.

#### **104. Tank vehicles with filling pipes.**

(1) When a tank vehicle is equipped with one or more filling pipes, each filling pipe shall be located as near as possible to the bottom of the tank.

(2) The ventilating openings, if separated from the pipes, shall be covered with fine wire gauze of not less than twenty eight mesh to the linear inch.

(3) The draw-off pipes shall be fitted with strong and secure valves and screw or equally efficient caps and, except where a siphon system of emptying the tank is used, with internal valves in accordance with standards approved by the Authority and best petroleum industry practices.

(4) Valves at the rear and side of the vehicle shall be enclosed in a strong locked box of suitable material or be provided with and protected by stout steel guards.

(5) All faucets of tank vehicles shall be made of non-sparking metal and fitted with drip caps.

**105. Operation of tank vehicles.**

(1) The licensee shall ensure that a competent person is in charge of a tank vehicle used for transmission of petroleum commodities or petroleum products at all times.

(2) An unauthorised person shall not be permitted to ride on the truck, and any load other than petroleum commodities or petroleum products shall not be carried on the truck.

**106. Authority to enter premises.**

An authorised officer may, upon production of evidence of identification, enter any premises where a tank vehicle is usually kept, for the purpose of inspecting such tank vehicle or the premises, or both the vehicle and premises.

**107. Handling of wax.**

The licensee shall ensure that wax accumulation in the tanks of vehicles used for transmission of petroleum commodities or petroleum products is handled in accordance with these Regulations, regulations made under section 3(8) of the Act, the National Environment Act, standards approved by the Authority and best petroleum industrial practices.

**108. Heating.**

The licensee shall ensure that the heating method used in the transmission of petroleum commodities or petroleum products is effective and does not pose any health, safety and environment risk to human health and the environment and that the heating method is in accordance with these Regulations, any other applicable law, standards approved by the Authority and best petroleum industrial practices.

PART V—LICENCE FOR MIDSTREAM STORAGE

**109. Licence to construct and operate midstream storage tank.**

(1) A person shall not store petroleum commodities or petroleum products in bulk without a licence issued by the Minister under the Act and these Regulations.

(2) An application for a licence to construct and operate a

midstream storage tank shall be made to the Minister using Form 7 set out in Schedule 1 and shall be accompanied by the fees specified in Schedule 2.

(3) An application for a licence for midstream storage shall be accompanied by the requirements set out in section 10 (6) of the Act.

(4) The Minister shall process and grant the licence in accordance with the Act and these Regulations.

### *Design and Layout of Midstream Storage Tanks*

#### **110. Design and specifications for aboveground field constructed midstream storage tanks.**

(1) The design, construction and testing of a field-erected aboveground storage tank system shall be based on standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall ensure that aboveground midstream storage tanks for petroleum commodities and petroleum products are not of riveted or bolted construction.

(3) The licensee shall ensure that cathodic protection systems are in accordance with standards approved by the Authority and best petroleum industry practices or other methods documented to provide equivalent or better corrosion control system.

(4) Cathodic protection systems shall be—

(a) designed by competent person;

(b) installed under the supervision of a competent person; and

(c) surveyed by a competent person.

(5) Each aboveground storage tank shall be equipped with a leak detection system that an observer from outside the tank can use to detect

leaks in the bottom of the tank in accordance with the latest standards approved by the Authority and best petroleum industry practices.

**111. Design and specification of aboveground shop-fabricated midstream storage tanks.**

(1) Every aboveground shop-fabricated midstream storage tanks shall meet the requirements of these Regulations, standards approved by the Authority and best petroleum industry practices.

(2) Aboveground shop-fabricated midstream storage tanks shall be designed and constructed in accordance with standards approved by the Authority, procedures, codes and best petroleum industry practices and shall—

- (a) have discrete secondary containment vault systems constructed of a suitable material able to contain one hundred percent of the volume of the tank plus any necessary allowance for precipitation; and
- (b) have sufficient personnel access to allow full physical inspection of all sides of the tank.
- (3) Self-diked aboveground midstream storage tanks shall—
  - (a) be designed and constructed in accordance with standards approved by the Authority and best petroleum industry practices;
  - (b) have access that allows visual inspection for corrosion control or damage to the outer shell of the storage tank and the inner surface of the integral secondary containment area to facilitate non-destructive testing;
  - (c) have catchments that positively hold any fuel overflow due to tank overfill or divert it into the diked tank integral secondary containment area;
  - (d) be equipped with systems for freeing water or spilled petroleum from the integral dike; and

- (e) be equipped with integral dikes with leak detection.
- (4) Double-walled aboveground midstream storage tanks shall—
  - (a) be designed and constructed in accordance with standards approved by the Authority and best petroleum industry practices;
  - (b) be equipped with operating interstitial monitoring systems to detect leaks and water accumulation;
  - (c) be equipped with overfill protection; and
  - (d) be equipped with systems for freeing water or spilled fuel from the interstitial space.

(5) The licensee shall ensure that the procedures, codes, and standards that are used for the maintenance and inspection of aboveground shop-fabricated midstream storage tanks are in accordance with standards approved by the Authority and best petroleum industry practices.

(6) Aboveground shop fabricated midstream storage tanks shall in addition be equipped with—

- (a) one or more of the following means of preventing discharges—
  - (i) high liquid level alarms with signals that sound and display in a manner immediately recognisable by the employee conducting a transfer;
  - (ii) high liquid level automatic pump shutoff devices set to stop flow at a predetermined tank content level;
  - (iii) means of immediately determining the liquid level of each bulk storage tank, provided that the liquid level is closely monitored during a transfer; or

- (iv) a system approved by the Authority which will immediately notify the licensee of high liquid levels; and
- (b) fixed overfill spill containment systems at each tank fill connection designed to prevent a discharge when a transfer hose or pipe is detached from the tank fill pipe.

(7) The licensee shall ensure that discharge prevention devices are tested before each transfer operation or monthly, whichever is less frequent.

(8) Where monthly testing referred to under subregulation (7) would necessitate interrupting the operation of a system subject to continuous flow, the licensee may substitute monthly inspection and annual testing for the monthly testing of overfill protection devices.

**112. Secondary containment requirements for aboveground storage.**

(1) The licensee shall ensure that an aboveground midstream storage tank is located within a secondary containment area that has the capacity to hold the volume of the largest tank within the containment area and additional capacity to allow for local precipitation.

(2) A minimum secondary containment system requirements shall include—

- (a) berms, dikes, or retaining walls that are constructed to prevent the release of spilled petroleum commodities or petroleum products from within the containment area;
- (b) with the exception of the area under a tank, components constructed of or lined with, materials that are—
  - (i) adequately resistant to damage by the products stored to maintain resistant to damage from prevailing weather conditions;

- (ii) sufficiently impermeable; and
- (iii) resistant to operational damage.

(3) The licensee shall ensure that-

- (a) a secondary containment systems is maintained free of debris, vegetation or other materials or conditions, including excessive accumulated water that might interfere with the effectiveness of the system; and
- (b) drainage of water accumulations from secondary containment areas that discharge directly to the land or waters is controlled by methods that conform to standards approved by the Authority, best petroleum industry practices and codes of practice.

(4) The licensee shall inspect accumulated water before discharging it from a secondary containment area and shall keep a written record of each drainage operation.

## *Underground Storage Tank*

### **113. Design and installation of underground storage tank system**

(1) Subject to this regulation, a person shall not install an underground steel storage tank unless it is designed and installed in accordance with the manufacturer's instructions, standards approved by the Authority and best petroleum industry practices.

(2) Underground storage tank system shall be designed and installed to have—

- (a) double-wall tank with monitorable interstitial space;
- (b) an overfill protection device;
- (c) a fill pipe spill containment device;
- (d) containment sumps, as applicable;
- (e) leak detection for monitoring oil leaks;
- (f) except for venting purposes, liquid and vapour-tight connections, caps and adapters; and
- (g) corrosion protection, as applicable.

(3) The licensee shall ensure that an underground storage tank is located and maintained to permit the eventual removal of midstream storage tanks when the storage tank system is decommissioned or taken out-of-service.

(4) The licensee of an underground storage tank system shall provide an as-built drawing to the Authority after installation in a manner determined by the Authority.

(5) The as-built drawing for an underground storage tank system referred to in subregulation (4) shall include, as a minimum—

- (a) the outline of all midstream storage tanks;
- (b) the centerline of all piping or piping groups;
- (c) the centerline of all underground electrical power and monitor sensor conduit;
- (d) building foundation outlines;
- (e) secondary containment systems; and
- (f) property lines.

**114. Tank heaters and mixers.**

(1) The licensee shall ensure that tank heating is—

- (a) either steam heating, electric tracing or hot oil circulation; and
- (b) designed to hold petroleum commodities or petroleum products at the specified storage temperature when the tank is filled to safe filling height, and for design calculation, specify the average wind velocity and minimum ambient temperature over extended period of time.

(2) The licensee shall ensure that steam heaters are designed so that their removal can be done without requiring a person enter into the tank.

(3) The licensee shall ensure that—

- (a) steam coils have no flange connections inside the tank and provision is made in condensate outlet lines to check for petroleum commodities or petroleum products leak;
- (b) gradient of the coil bundle inside the tank is designed to ensure that condensate accumulation is avoided;
- (c) electric tracing of one or more courses of shell is provided;
- (d) the classification and thermal rating of electric tracing is verified before installation;

- (e) the electric conduits and cabling conform to standards approved by the Authority and best petroleum industry practices; and
- (f) fired heaters are located outside the hazardous area and placed at a safe location.

**115. Bottom drain.**

The licensee shall ensure that—

- (a) bottom drains are provided for all tanks to drain water and empty out the tank during cleaning and for draining water after hydro test or initial flushing during a start-up operation;
- (b) the number and details of drains conform to standards approved by the Authority and best petroleum industry practices; and
- (c) each bottom drain line has a minimum of two isolation valves and pipe extended beyond tank- pad up to drain point and one of the valves is of quick closing type.

**116. Floating roof drain.**

The licensee shall ensure that floating roof drains are designed to meet standards approved by the Authority and best petroleum industry practices.

**117. Emergency roof drain.**

(1) The licensee shall ensure that emergency drain for floating roof tank are provided on the roof of a midstream storage tank to take care of disposal of water in case of chocking or multifunctioning of the primary roof drain.

(2) The emergency drain referred to in subregulation (1) shall have water seal arrangement to prevent petroleum spill on the roof a midstream storage tank.

## **118. Midstream storage tanks for gas in bulk.**

The licensee shall ensure that—

- (a) the design, construction and testing of gas unit and storage are in accordance with the standards approved by the Authority and best petroleum industry practices;
- (b) the storage and handling of gas is in accordance with guidelines, standards approved by the Authority, best petroleum industry practices and codes issued by the Authority;
- (c) tanks for the storage of gas are designed for a working pressure corresponding to the vapour pressure at the highest temperature that the contents of the tanks are likely to reach; and
- (d) storage tank is not filled with gas having a vapour pressure greater than that of the petroleum commodities or petroleum products for which the tank is designed.

## **119. Layout of midstream storage tanks.**

(1) The licensee shall during design of a midstream storage tank—

- (a) carry out risk assessment at the layout stage with an objective to arrive at any specific mitigation measures required for hazards identified including—
  - (i) giving due regard to risk reduction and mitigation measures;
  - (ii) carrying out unconfined vapour cloud explosion and using the outcome to guide in preparation of emergency plans; and
  - (iii) carrying out quantitative risk assessment whenever major additions to the facilities or major changes in the surrounding areas, operating parameters, product grade takes place or once in every five years whichever is earlier;

- (b) where applicable, provide two access roads from the highway or major road, one for normal movement and another for emergency exit;
- (c) provide for the restriction of roads inside the hazardous area of an installation to vehicles required for operational, maintenance and safety or security reasons except with proper safety fittings and authorisation from the person -in-charge or designated safety officer;
- (d) ensure that road widths, gradient and turning radii at road junctions are designed to facilitate movement of the largest fire-fighting vehicle envisaged in the event of emergency;
- (e) ensure that the location of the rail spur is close to the boundary of the installation to minimise road or pipe crossings and blockage of roads during shunting;
- (f) ensure that the layout of the storage tank takes into consideration the space requirements for—
  - (i) maintenance and inspection of each equipment or facility;
  - (ii) dedicated area for construction operations; and
  - (iii) future expansion for addition of facilities;
- (g) ensure that the design does not allow vehicles with spark ignition engine inside potentially hazardous areas and that vehicles with internal combustion engine including tank truck required to be permitted for business have sparked arrestor fitted on the vehicle as prescribed in standards approved by the Authority and best petroleum industry practices; and
- (h) provide for physical segregation of hazardous and non-hazardous areas in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall not construct midstream storage facilities within one hundred meters of the water course or fifty metres from a borehole.

**120. Approval of storage tank testers.**

(1) The licensee shall ensure that—

- (a) underground storage tank systems are tested by a competent person;
- (b) supervisory control over a test is undertaken by a competent person;
- (c) a competent person does not certify to the licensee that a test is complete unless the test complies with the standards approved by the Authority and best petroleum industry practices and these Regulations.

(2) Notwithstanding subregulation (1), the licensee shall comply with any obligations or liabilities under other applicable law and the licensee is responsible for the acts or omissions of the competent person who undertakes the test.

**121. Requirements for storage of petroleum commodities or petroleum products.**

(1) The licensee shall ensure that petroleum commodities or petroleum products are stored in a tank which is of sufficient strength and structural integrity to ensure that it is unlikely to burst or leak during its ordinary use.

(2) The license shall ensure that a tank is situated within a secondary containment system and—

- (a) is positioned or other steps are taken, so as to minimise any risk of damage by impact so far as is reasonably practicable;
- (b) its base and walls is impermeable to water, petroleum commodities or petroleum products;

- (c) its base and walls are not penetrated by any valve, pipe or other opening which is used for draining the system; and
- (d) if any fill pipe or draw off pipe penetrates its base or any of its walls, the junction of the pipe with the base or walls is adequately sealed to prevent petroleum commodities or petroleum products escaping from the system.

(3) A valve, filter, sight gauge, vent pipe or other equipment ancillary to the container other than a fill pipe or draw off pipe or, if the petroleum commodities or petroleum products have a flashpoint of less than thirty two degree Centigrade, a pump shall be situated within the secondary containment system.

## **122. Fixed midstream storage tanks.**

(1) Where a fixed tank is used for storing petroleum commodities or petroleum products, a sight gauge shall be properly supported and fitted in accordance with standards approved by the Authority and best petroleum industry practices and-

- (a) if aboveground, the storage tank shall be properly supported;
- (b) if underground-
  - (i) it shall not have mechanical joints, except at a place which is accessible for inspection by removing a hatch or cover;
  - (ii) it shall be adequately protected from physical damage;
  - (iii) it shall have adequate facilities for detecting any leaks;
  - (iv) if fitted with a leakage detection device which is used continuously to monitor for leaks, the detection device shall be maintained in working order and tested at appropriate intervals to ensure that it works properly; and

- (v) if not fitted with a leakage detection device, it shall be tested for leaks before it is first used and further tests for leaks are performed and in the case of pipes which have mechanical joints, at least once in every three years and, in other cases, at least once in every five years; and
- (c) if made of materials which are liable to corrosion, it shall be adequately protected against corrosion.

(2) The fixed tank storage shall be fitted with an automatic overflow prevention device if the filling operation is controlled from a place where it is not reasonably practicable to observe the tank and any vent pipe.

(3) The licensee shall ensure that a screw fitting or other fixed coupling which is fitted and is in good condition is used when the fixed tank is being filled with petroleum commodities or petroleum products.

(4) The licensee shall ensure that, any pump used on the storage tank is—

- (a) fitted with a non-return valve in its feed line;
- (b) positioned, or other steps taken to minimise any risk of damage by impact so far as is reasonably practicable; and
- (c) protected from unauthorised use.

(5) The licensee shall ensure that a permanent vent pipe, tap or valve through which petroleum commodities or petroleum products can be discharged from the tank to the open is—

- (a) situated within the secondary containment system;
- (b) arranged so as to discharge the petroleum commodities or petroleum products vertically downwards and be contained within the system; and
- (c) in the case of a tap or valve, fitted with a lock and locked when not in use.

### **123. Areas at risk from flooding.**

(1) The licensee shall not store petroleum commodities or petroleum products in areas at risk from flooding.

(2) Where there is no alternative, the licensee shall raise tanks above predicted flood water levels as long as this does not compromise the tank integrity, safe delivery and handling of the petroleum commodities or petroleum products.

(3) The licensee shall ensure that storage tanks are secured to prevent lifting as water rises around the tanks.

### **124. Safe deliveries to the storage tank.**

(1) The licensee shall, before delivery of new stock of petroleum commodities or petroleum products—

- (a) verify the amount of petroleum commodities or petroleum products in the storage tank; and
- (b) work out the spare capacity to decide the quantity of petroleum commodities or petroleum products.

(2) The licensee shall ensure that an employee with knowledge of the tank, its equipment and what to do if there is a spill or any other emergency supervises all deliveries.

### **125. Grouping of midstream storage tanks.**

(1) The licensee shall ensure that midstream storage tanks for storage of bulk petroleum commodities or petroleum products are grouped in a dedicated bund wall according to their respective classification of petroleum commodities or petroleum products.

(2) The licensee shall ensure that, where different classes of petroleum commodities or petroleum products are stored in any combination of petroleum commodities or petroleum products classification, the following are applicable—

- (a) where class A, B and C are stored together, all the provisions of class A shall be applicable;
  - (b) where class A and B are stored together, all the provisions of class A shall be applicable; and
  - (c) where class B and C are stored together, all the provisions of class B shall be applicable.
- (3) The licensee shall ensure—
- (a) that excluded petroleum commodities or petroleum products are stored in a separate bund wall enclosure and are not stored together with class-A, class B or class C petroleum commodities or petroleum products;
  - (b) midstream storage tanks are arranged in maximum two rows so that each tank is approachable from the road surrounding the enclosure except for tanks storing excluded petroleum commodities or petroleum products class; and
  - (c) midstream storage tanks whose total storage capacity is five million litres and above are laid in single row.

*Construction and Installation of Midstream Storage Tanks*

**126. Conditions governing the construction of midstream storage tanks.**

(1) This regulation applies to the fabrication, installation and erection of midstream storage tanks.

(2) The licensee shall, at the completion of fabrication of a midstream storage tank, employ a competent person to carry out and compile a quality control report and to verify and confirm that the work was done in accordance with standards approved by the Authority and best petroleum industry practices.

(3) The quality control inspection referred to under subregulation (2) shall be by a method developed by the licensee and standards approved by the Authority and best petroleum industry practices.

(4) A copy of the report referred to in subregulation (2) shall be submitted to the Authority by the licensee.

**127. Installation of midstream storage tanks.**

(1) The licensee shall ensure that a midstream storage tank is installed by a competent and qualified tank installer for the type of storage tank being installed and; registered with a professional body.

(2) The licensee shall ensure that—

(a) a midstream storage tank is installed in accordance with standards approved by the Authority and best petroleum industry practices; and

(b) documents containing markings and information of the manufacturer and installer for each tank are kept and the markings and stickers are left on the tank when the storage tank is installed.

(3) The information referred to in subregulation (2) (b) shall include—

(a) the name of the tank manufacturer, make, model and capacity markings;

(b) the type of petroleum commodities or petroleum products stored; and

(c) the tank's maximum capacity.

(4) The licensee shall protect petroleum commodities or petroleum products storage tank from the risk of fire and any other possible risk including accidents, vandalism and theft.

(5) The licensee shall document all measures taken to protect petroleum commodities, petroleum products and midstream storage tanks and provide a copy to the Authority.

### **128. Ancillary equipment.**

The licensee shall ensure that ancillary equipment, valves, filters, sight gauges and vent pipes are within the secondary containment system to ensure that any discharges of petroleum commodities or petroleum products are retained.

### **129. Pipework.**

(1) The licensee shall ensure that pipes are designed for handling petroleum commodities or petroleum products in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The licensee shall make provision for isolating certain sections of the pipe lines with isolation valves and arrangements for injection or draining of water to facilitate hydro-testing of the pipe lines.

(3) The licensee shall ensure that pipework is—

- (a) made of a material suitable for use with the petroleum commodities or petroleum products being stored;
- (b) supported so that it is secure and tight;
- (c) positioned or protected to minimise the chances of damage by impact or collision; and
- (d) protected against corrosion.

(4) The licensee shall ensure that pipework is in addition made in accordance with standards approved by the Authority, best petroleum industry practices, guidelines and codes issued by the Authority.

### **130. Vent pipe.**

The licensee shall ensure that—

- (a) midstream storage tanks are installed so that vent pipes can be easily seen during deliveries and that the vent pipes are within and discharge into the secondary containment system; and

- (b) vent pipes are within the secondary containment system and are arranged so that any discharge is directed vertically downwards into the system.

**131. Fill point.**

- (1) The licensee shall ensure that a tank fill point—
  - (a) has a serviceable screw fitting or other fixed coupling to be used when filling the tank;
  - (b) has a lockable fill cap with a chain and is marked clearly with the product type, tank capacity and, where appropriate, tank number; and
  - (c) is replaced to the pipe after each delivery to protect it from damage and unauthorised use.
- (2) The licensee shall ensure that—
  - (a) the tank fill point is positioned at the tank and within the secondary containment system to catch any petroleum commodities or petroleum products spilled during deliveries; and
  - (b) the fill point drip trays are—
    - (i) clean and free from water and other debris before each use; and
    - (ii) large enough to hold all the petroleum commodities or petroleum products that could be lost when the fill point shut off valve is closed and the delivery hose is disconnected.

**132. Remote fill.**

- (1) The licensee shall ensure that—

- (a) where the storage tank is filled from a place where it is not practicable to see the tank and any vent pipe, the tank is fitted with a remote fill point; and
- (b) where a tank has a remote filling point and the vent pipe cannot be seen during the filling operation, the tank is fitted with an automatic overflow prevention device; and
- (c) shut-off valves are fitted to extended fill pipes.

(2) Where the licensee has more than one tank, the licensee shall provide separate fill pipes for each tank, unless the tanks are connected by a balance pipe with a greater flow capacity than the fill pipe.

(3) The licensee shall ensure that each fill pipe has its own fill point shut off valve, and is marked with its corresponding tank or compartment number, volume and the type of petroleum commodities or petroleum products.

(4) The licensee shall not use a remote filling point except in accordance with these Regulations, standards approved by the Authority and best petroleum industry practices.

### **133. Pipework to take petroleum commodities or petroleum products from tank draw-off or supply pipe.**

- (1) Whenever possible, the licensee shall—
  - (a) install site supply pipework aboveground to make it easier to inspect and repair; and
  - (b) use tanks that have top outlet off-take pipes.
- (2) The licensee shall ensure that—
  - (a) feed lines have anti siphon and isolating valves to prevent the tank contents draining down because of leaks, damage, theft or vandalism; and

- (b) suitable secondary containment for the tank and its ancillary equipment are designed to reduce the chance of jetted petroleum commodities or petroleum products from spreading to the environment in the event of overflow or damage.

(3) The licensee shall consider the risk to the user working at height to fill, inspect, maintain and draw-off and shall provide suitable ladders, railings and other health and safety equipment.

(4) The licensee shall ensure that—

- (a) filters or isolating valves used to protect the draw-off pipe or downstream equipment in a gravity-feed system are considered ancillary to the container; and
- (b) where practicable, filters and isolating valves are located within the secondary containment system.

### **134. Underground pipework.**

(1) The licensee shall, where aboveground pipe work cannot be fitted, use underground pipe work with the approval of the Authority.

(2) The licensee shall ensure that—

- (a) where underground pipework is used, the pipework—
  - (i) has double skinned pipes or within concrete ducting;
  - (ii) has as few joints as possible; and
  - (iii) is marked clearly on site plans.
- (b) underground pipework is protected against corrosion and from physical damage caused by excessive surface loading, ground movement or ground disturbance; and
- (c) where mechanical joints are used, they are readily accessible for inspection under a hatch or cover.

(3) The licensee shall put in place measures and facilities for detecting leaks from underground pipework.

(4) Where a continuous leak detection device is used, it shall be maintained and tested regularly and the licensee shall keep a record of the test results and any maintenance work completed.

**135. Taps and valves.**

The licensee shall ensure that taps and valves that are permanently attached to the tank through which petroleum commodities or petroleum products are discharged, are fitted with a lock and locked when not in use.

**136. Overfill prevention devices.**

(1) The licensee shall use overfill prevention devices to safeguard against spills.

(2) The overfill prevention devices referred to in subregulation (1) shall be electronic or mechanical and capable of either sounding an alarm or giving a visual warning and automatically stopping the petroleum commodities or petroleum products delivery into the tank.

*Operations of Midstream Storage Tank*

**137. Notice to the Authority.**

(1) The licensee shall provide notice to the Authority—

- (a) at least seven working days prior to backfilling a newly installed or altered underground storage tank or storage tank system; and
- (b) on the completion of the installation or alteration of an aboveground storage tank or storage tank system.

(2) The Authority may cause an authorised officer to inspect the midstream storage tank or midstream storage tank system in respect of which a notice was given in subregulation (1).

**138. Licence to commence operations.**

(1) Following the completion of construction of a midstream storage tank or substantial modification of a midstream storage tank to the satisfaction of the Authority, the licensee shall apply to the Minister in writing for a licence to operate the facility.

(2) The application shall contain proof that the Authority has inspected and is satisfied with the midstream storage tank as required by section 20 (2) of the Act.

(3) The Minister shall in accordance with section 20 (2) of the Act and these Regulations grant the applicant a licence to operate the midstream storage tank allowing the licensee to commence operation of the midstream storage tank.

**139. Permit to commence operations.**

(1) Following the completion of construction of a midstream storage tank, the licensee shall notify the Authority in writing of the completion of construction or substantial modification and shall append to such notification the documentation set out in subregulation (4).

(2) Prior to notifying the Authority in subregulation (1), the licensee shall appoint an independent health, safety and environment auditor to carry out an inspection and audit of the midstream storage tank.

(3) The Authority shall carry out physical inspection and may conduct an audit of the midstream storage tank to ascertain conformance with approved designs, standards approved by the Authority and best petroleum industry practices before granting the operating permit.

(4) The licensee shall, before applying for a permit to commence operations ensure that the following are in place—

- (a) a report of the independent health, safety and environment auditor appointed by the licensee in subregulation (3);

- (b) proof of appointment of a qualified storage facility manager by the licensee;
- (c) organisation structure and schedules of duties for the available staff;
- (d) confirmation by the licensee of completion of all fiscalisation equipment and systems in conformity with standards approved by the Authority and best petroleum industry practices;
- (e) confirmation by the licensee of availability of adequate spare parts for both commissioning and operations;
- (f) operating manuals, maintenance manuals and mechanical catalogues, subject to appropriate substantial modifications after commissioning;
- (g) the licensee's safety policy and Safe Operating Procedures;
- (h) operating and maintenance schedule and availability of trained manpower;
- (i) confirmation by the licensee of a functional and effective fire prevention and firefighting plan in existence;
- (j) confirmation by the licensee of a functional and effective safety enforcement plan and policies already in existence;
- (k) two copies of engineering drawings indicating any substantial modifications made during construction;
- (l) confirmation by the licensee that the quality control laboratory is completed and functional;
- (m) confirmation by the licensee of the existence of an adequately staffed and equipped First Aid facility are in place;

- (n) confirmation by the licensee that all other provisions, which are reasonably required to facilitate effective commissioning of the storage tank;
- (o) confirmation by the licensee that an effective and international applicable materials codification and management system is in place;
- (p) confirmation by the licensee that the requirements of environmental laws have been met; and
- (q) evidence of payment of the fees prescribed in Schedule 2.

**140. Operation of midstream storage tank.**

(1) The licensee shall ensure that a midstream storage tank is operated in compliance with the Act, these Regulations, standards approved by the Authority, best petroleum industry practices and any other applicable law.

(2) The licensee shall submit to the Authority for approval a code of operations for the storage tank system prior to the commencement of operations.

(3) The licensee shall prepare and submit to the Authority an annual program of operations by the 31st of January of each year.

(4) The annual program referred to in subregulation (3) shall contain—

- (a) operation and maintenance manuals, where modified;
- (b) maintenance schedules;
- (c) HAZOP, where modified; and
- (d) risk assessment and risk management.

**141. Operational safeguards in relation to midstream storage tanks.**

The licensee shall ensure that, where any tank in operation is being filled, the operational safeguards are used to avoid exceeding the safe limit of fill applied to the particular storage tank under consideration.

**142. Calibration of midstream storage tanks.**

(1) The licensee shall ensure that, before a midstream storage tank is used for storage of petroleum commodity or product, the tank is properly calibrated in the presence of an authorised officer and the calibration is done in accordance with standards approved by the Authority and best petroleum industry practices.

(2) Upon completion of the calibration exercise in subregulation (1), the licensee shall submit to the Authority the calibration tables on the midstream storage tank.

(3) Where for any reason any midstream storage tank which has been in use requires to be recalibrated, the licensee shall ensure that the calibration is done in the presence of an authorised officer and by a method that meets the standards approved by the Authority and best petroleum industry practices and calibration tables on the tank are forwarded to the Authority in duplicate by the licensee.

(4) Where an authorised officer is required to be present for a matter prescribed by this regulation, the licensee shall notify the Authority at least seven days prior to the proposed date for calibration, to enable the Authority to provide the authorised officer.

**143. Registration of midstream storage tanks.**

(1) The Authority shall maintain a register of all underground and aboveground midstream storage tanks.

(2) The licensee shall register with the Authority all underground midstream storage tanks and aboveground midstream storage tanks owned or operated by the licensee.

(3) The Authority may issue or cause to be issued a tag, label or similar device indicating the registration number for each midstream storage tank.

(4) The licensee shall affix to a midstream storage tank a tag, label or other similar device in a location and in accordance with standards approved by the Authority and best petroleum industry practices.

(5) The licensee shall not deliver or cause to be delivered petroleum commodities or petroleum products to a midstream storage tank system to which these Regulations apply unless the midstream storage tanks system have been registered under this regulation.

(6) The licensee shall notify the Authority in writing within thirty days of the transfer or sale of the midstream storage tank system.

#### **144. Certification by competent person.**

The licensee shall ensure that—

- (a) any installation, repair, upgrade or closure is certified by a competent person; and
- (b) a competent person does not certify that an installation, repair, upgrade or closure is complete unless the installation, repair, upgrade or closure complies with these Regulations.

#### *Maintenance of Midstream Storage Tanks*

#### **145. Maintenance.**

(1) The licensee shall engage a competent person to inspect a midstream storage tanks, secondary containment and pipework every year in accordance with standards approved by the Authority and best petroleum industry practices.

(2) The competent person referred to in subregulation (1) shall file a report with the licensee upon completion of the inspection and the licensee shall submit the report to the Authority within twenty four hours from the date of receipt.

(3) The licensee shall ensure that any repairs or alterations detailed in the report are done by a competent person.

(4) The licensee shall inspect all accessible parts of a storage tank, secondary containment, ancillary equipment and pipework regularly, for signs of damage or leaks.

(5) Where the licensee notices any damage to a storage tank, the licensee shall have the damage repaired or replaced immediately, but in any case not later than twenty four hours from the time the damage is discovered.

(6) The licensee shall use a reputable company or person to repair any defects in the bund wall or lining promptly to ensure that a constructed bund retains its integrity.

(7) The licensee shall keep a log of the inspections and repair work on the midstream storage tanks as well as the name of the person who has done the inspections or repairs.

(8) The licensee shall correct any deficiencies identified as a result of an inspection or maintenance check in accordance with standards approved by the Authority and best petroleum industry practices.

#### **146. Record of petroleum commodities or petroleum products usage.**

(1) The licensee shall regularly make note of the quantity of petroleum commodities or petroleum products in the midstream storage tank and compare the quantity to the previous usage.

(2) The methods of monitoring the petroleum commodities or petroleum products used by the licensee and their frequency shall be in accordance with standards approved by the Authority, best petroleum industry practices and guidelines issued by the Authority.

#### **147. Removing rain water.**

(1) Where a tank is in an open bund, the licensee shall ensure that the bund is checked after rainfall.

(2) Where it is necessary to remove accumulated rainwater, the licensee shall remove the water by a manually operated pump, bailing from the sump or any other suitable method.

(3) Where rain water accumulates on a part of the tank that is easy to reach, the licensee may, use automatic systems that can distinguish between the petroleum commodities or petroleum products and water in the bund.

(4) The licensee shall ensure that any accumulated water, petroleum commodities or petroleum products, debris or related waste are handled and removed and disposed of in accordance with regulations made under section 3 (8) of the Act and the National Environment Act.

### *Additional Requirements for Midstream Storage Tanks*

#### **148. Supervision of transfer.**

The licensee shall ensure that a competent person supervises the transfer of petroleum commodities or petroleum products from a midstream storage tank system to a tank vehicle or vessel, or from a tank vehicle or vessel to a storage tank system at all times in such a manner to enable immediate shut off of the flow of petroleum commodities or petroleum products during the transfer.

#### **149. Prevention of overflow.**

The licensee shall not cause or permit the overflow of petroleum commodities or petroleum products from a midstream storage tank system.

#### **150. Alteration or substantial modification of storage tank system.**

(1) The licensee shall not alter or substantially modify a storage tank system or part of the tank system except with the prior approval in writing of the Minister in consultation with the Authority.

(2) An application to alter or substantially modify a storage tank system shall be in writing and shall contain the requirements of section 10 (6) of the Act and shall be accompanied by the prescribed fee.

(3) Where the Minister is satisfied that the application submitted under subregulation (1) complies with the requirements of the Act and these Regulations, the Minister shall approve the application within sixty days from the date of submission of application.

(4) The licensee shall ensure that any proposed substantial modification or expansion of an existing storage tank system is done in accordance with the Act, these Regulations, standards approved by the Authority and best petroleum industry practices.

(5) Within thirty days of the completion of an alteration or substantial modification of a midstream storage tank, the licensee shall complete and submit a report to the Authority.

(6) Notwithstanding subregulation (1), prior approval of the Authority is not required for an emergency alteration that is necessary to prevent a leak or spill of petroleum commodities or petroleum products.

(7) Within 72 hours of initiating an emergency alteration, the licensee shall submit a detailed description of the alteration in writing to the Authority.

### *Inventory Control and Record Keeping*

#### **151. Inventory control.**

The licensee of a midstream storage tank or midstream storage tank system with a nominal capacity of fifty metric cubic meters or its equivalent in litres or greater shall—

- (a) maintain and reconcile an inventory of petroleum commodities or petroleum products for each day that the system is in operation;
- (b) maintain monthly reconciliation summary sheets;
- (c) retain the inventory records and summary sheets at the site of the midstream storage tank or midstream storage tank system for a minimum of two years; and

- (d) make the records and summary sheets available for inspection at the request of the Authority.

**152. Underground midstream storage tank system inventory control.**

(1) Where an underground storage tank system is not directly connected to a heating appliance the licensee shall ensure that—

- (a) the petroleum commodities or petroleum products level in an underground midstream storage tank is measured, reconciled and recorded in accordance with subregulation (2)—
  - (i) on each day in which petroleum commodities or petroleum products are added to or removed from the underground tank; or
  - (ii) where petroleum commodities or petroleum products are added to or removed from the underground tank less than once a week, at least weekly; and
- (b) the water level in an underground tank is reconciled and included in all reconciliation computations required in subregulations (2) and (3).

(2) The licensee shall ensure that—

- (a) inventory control measurements are reconciled by comparing petroleum commodities or petroleum products and water level measurements with measurements obtained from dispenser meter readings, deliveries, and internal transfers; and
- (b) any gain or loss of petroleum commodities or petroleum products are recorded and included in a monthly summary of cumulative losses or gains of the petroleum commodities or petroleum products.

(3) The licensee shall notify the Authority when a leak or spill is detected from a storage tank immediately but in any case not later than twenty four hours after a leak or spill from a storage tank is detected.

**153. Aboveground midstream storage tank system inventory control.**

(1) Subject to subregulation (3), a licensee for an aboveground midstream storage tank system shall ensure that the petroleum commodities or petroleum products level is measured, reconciled and recorded in accordance with these Regulations at least weekly.

(2) The licensee of an aboveground midstream storage tank system shall, when a leak or spill from the storage tank is detected, notify the Authority immediately, but in any case not later than twenty four hours from the time the spill or leak is detected.

(3) Inventory control measures described in subregulations (1) and (2) are not required for an aboveground midstream storage tank system where the midstream storage tank system is located such that all exterior surfaces are visible for inspection and are inspected in accordance with the requirements of these Regulations and—

- (a) has a secondary containment and leak monitoring devices that meet the requirements set out in standards approved by the Authority and best petroleum industry practices; or
- (b) is equipped with a continuous leak detection device, system or method providing an equivalent level of safety that meets the requirements set out in standards approved by the Authority and best petroleum industry practices.

**154. Inventory control for midstream storage tank system connected to heating appliance.**

A licensee of a midstream storage tank system that is connected to a heating appliance shall ensure that the midstream storage tank system—

- (a) has secondary containment and leak monitoring devices that meet the requirements set out in standards approved by the Authority and best petroleum industry practices; or

- (b) is equipped with a continuous leak detection device, system or method providing an equivalent level of safety and approved in writing by the Authority.

### **155. Record keeping.**

(1) The licensee shall maintain all inventory control records and reconciliation data for the midstream storage tank system at the location of the storage tank system for a period of two years.

(2) Where computerised inventory reconciliation is conducted, the licensee may store the records and data referred to in subregulation (1) at a different location than that described, but shall make the inventory available within 48 hours on written request from the Authority.

(3) The licensee of a newly acquired storage tank system shall obtain and maintain any required records from the person from whom the system was transferred.

### **156. Upgrade of midstream storage tank.**

The Authority may require the licensee to upgrade a midstream storage tank system where the existing storage tank system has been internationally proven to be unsafe in terms of health, safety and environment.

#### *Reporting Leakage*

### **157. Leakage.**

(1) Where the Authority believes on reasonable and probable grounds that there is leakage in a midstream storage tank system, the Authority may require a leak detection test to be conducted by, and at the expense of the licensee.

(2) The Authority may require the licensee to repair or if repair is not possible, replace any portion of the midstream storage tank system that is shown by a leak detection test to have a leak, and the licensee shall comply with the requirement within the time specified in the notice or any other period as the Authority may allow.

(3) A leak detection test carried out in subregulation (1) shall be conducted by a competent person using a method approved in writing by the Authority.

(4) The licensee shall forward the written results of a leak detection test required under subregulation (3) to the Authority within seven days of the test.

(5) Where a leak is detected in a midstream storage tank system, the licensee shall notify the Authority immediately and in any case not later than twenty four hours upon learning that the storage tank system failed a leak detection test.

**158. Temporary closure of midstream storage tank.**

(1) The licensee of a midstream storage tank that is removed from service shall—

- (a) remove from the tank, as far as possible, all its contents;
- (b) cap and secure all fill lines against tampering;
- (c) secure manways, pumps and other components;
- (d) pump out suction lines;
- (e) keep the vent lines open;
- (f) maintain records regarding-
  - (i) underground storage tank location and size;
  - (ii) the date on which underground midstream storage tanks were taken out of operation; and
  - (iii) the procedures used to maintain the facility in a safe condition;

- (g) continue to comply with all general operating requirements, including—
  - (i) maintenance of corrosion protection;
  - (ii) release reporting and investigations; and
  - (iii) leak and spill response and corrective action requirements; and
- (h) notify the Authority in writing within fifteen days of any temporary closure, specifying which underground midstream storage tanks have been put into temporary closure and the actions taken to satisfy the requirements of these Regulations.

(2) The Authority may require temporary closure of a midstream storage tank systems for which operational conditions or other information indicates a leak or release.

## PART VI—INSPECTION AND ENFORCEMENT

### **159. Power of authorised officers.**

(1) An authorised officer may at all times prior to giving the licensee notice enter into any part of the licence area or any other location, facility, premises, structure or business place where a midstream operation is being undertaken by the licensee, contractors or subcontractors to-

- (a) examine or check anything which the licensee is authorised by the Act and these Regulations to perform, install, construct or take possession of;
- (b) inspect and make abstracts or copies of any logs, records, maps, accounts or other documents which the licensee is required to make or keep in accordance with the Act and these Regulations; and

(c) carry out any other authorised function under the Act, these Regulations and any other applicable law.

(2) Notwithstanding subregulation (1), an authorised officer may at any time without notice enter any facility or area which is subject of a licence or where midstream operations are being undertaken and inspect any facility of the licensee, contractor or subcontractor for the purpose of ascertaining that the provisions of these regulations are being complied with.

(3) An authorised officer shall, in implementing this section, identify himself or herself and upon demand produce evidence of his or her authority.

(4) An authorised officer shall not, in exercising his or her powers under this regulation, unreasonably interfere with or delay the operations of the licensee.

(5) An authorised officer may make any investigation necessary to determine whether or not the provisions of the Act, these Regulations or any other applicable law are being complied with.

(6) Where an authorised officer—

- (a) finds any facility or midstream operation in a dangerous condition or any practice;
- (b) identifies a method of work in connection with any midstream operation carried out under a licence which is dangerous or not in accordance with the Act, these Regulations, guidelines, standards approved by the Authority or best petroleum industry practices; or
- (c) finds a method of work is contrary to good oil field practice or any other applicable law,

the authorised officer may give the licensee notice in writing to repair or replace that plant or remedy that practice or method of work and the licensee shall immediately comply with the notice.

**160. Access to technical records by authorised officers.**

(1) The licensee shall allow an authorised officer at any time, to have access to and to take notes from documents and technical records concerning any midstream operation or matters related to those operations.

(2) The information obtained in subregulation (1) shall be treated as confidential and shall not be used for any purpose other than that allowed by the Act or an agreement.

(3) The Authority may, in consultation with any other relevant government ministry, department or agency, at any time during the construction, operation or substantial modification of a facility carry out inspection of the operations.

**161. Integrity assessment of facilities by the Authority.**

Upon receipt and completion of the review of the reports submitted under this Part, the Authority may upon notice to the licensee appoint experts to carry out a physical inspection or audit of the facility and accessories on location in order to verify the information given in the reports.

**162. Protection of authorised officers from liability.**

An authorised officer or a person acting on the directions of the Minister or the Authority is not personally liable for any act or omission done or omitted to be done in good faith in the exercise of functions under the Act and these Regulations.

PART VII—MISCELLANEOUS

*General Provisions Relating to Licensing*

**163. Particular information to be supplied by applicant.**

Before considering an application for any licence under the Act and these Regulations, the Minister—

- (a) shall, if he or she is of the view that the proposed design and construction of facility needs to be altered to provide access to third parties, inform the applicant of that view and request the applicant to provide reasons as to why the application shall not be considered subject to the imposition of such condition;
- (b) may direct the applicant to alter the plans for the proposed construction of a facility in order to comply with applicable health, safety, security and environmental laws; or
- (c) may request such additional information as may be necessary for proper consideration of the application.

**164. Procedure to be followed in considering licence applications.**

(1) When evaluating licence applications, the Minister may conduct investigations, collect necessary information, consult with any government ministry, department, or agency hold public meetings or take any other action he or she considers necessary in order to evaluate the application subject to the Act and these Regulations.

(2) In evaluating the licence application, the Minister may take into consideration the following—

- (a) the information provided in the application;
- (b) objections to the application, if any;
- (c) the applicant's responses to objections raised, if any;
- (d) other licence applications that may affect or be affected by his or her decision;
- (e) technical, administrative and financial capabilities of the applicant;
- (f) where applicable, the effects of the licence applied for on the operations of other licensees;

- (g) methods and procedures for safely operating and maintaining a facility and its effects on any other facilities;
- (h) proposed general conditions for the provision of services;
- (i) technical specifications of the project; and
- (j) any other information that the Minister deems necessary.

(3) Based on the evaluation of the licence application, the Minister may request the applicant to modify the application to incorporate third party use of the facility.

### **165. Renewal of licences for midstream facilities.**

(1) The licensee may, in accordance with section 23 of the Act, apply for renewal of a licence issued under the Act and these Regulations within six months before the date of expiry of the licence.

(2) An Application for renewal of a licence shall be made to the Minister in Form 8 set out in Schedule 1 and shall contain—

- (a) a copy of the current licence together with the previously approved plans and specifications of the facility;
- (b) a certificate of facility testing to ensure it is safe and fit for purpose;
- (c) a certificate of safety stating that the facility has been tested and is safe for operation; and
- (d) evidence of payment of the fee prescribed in Schedule 2.

(3) The Minister may, where satisfied with the application, renew a licence for a period not exceeding five years.

(4) Where the Minister refuses to renew licence, he or she shall inform the applicant in writing within fourteen days from the date of the decision, stating reasons for the refusal.

**166. Application to transfer interest in licence.**

(1) A licensee may in accordance with section 25 of Act apply to the Minister for approval to—

- (a) transfer or lease his or her licence or any interest in the licence in whole or in part;
- (b) enter into any agreement for the amalgamation of his or her operations under the licence with those of any other person or corporation;
- (c) mortgage or otherwise create a charge upon the licence or any interest in the licence; or
- (d) directly or indirectly transfer an interest or participation in the licence, including, inter alia, assignment of shareholdings and other ownerships shares which may provide decisive control of a licensee possessing a participating interest in a licence.

(2) The application under subregulation (1) shall be in writing and accompanied by the prescribed fee.

**167. Use of licence as security.**

(1) A licensee may, in accordance with section 56 of the Act, apply to the Minister for consent to use a licence or the licensee's share or interest in the licence as part of the financing of the operations prescribed in the licence.

(2) The application referred to in subregulation (1) shall be in writing and shall state the operations to be financed.

(3) The consent granted by the Minister shall only relate to the use of the licence as security for financing operations related to the licence.

(4) Where the application satisfies the requirements of the Act and these Regulations, the Minister, may approve the application within twenty one days from the date of submission.

(5) Where a licence is used as security under this regulation, a caveat shall be lodged as an encumbrance to the licence or the licensee's interest or share in the licence.

(6) A person who wishes to lodge a caveat on a licence under subregulation (5) shall apply to the Minister in writing and the Minister shall, if satisfied with the application, register the caveat within seven days from the date of the application.

(7) A caveat lodged under this regulation may be withdrawn by the person who lodged the caveat or the licensee through an application made to the Minister in writing and the Minister may, if satisfied with the application remove the caveat within seven days from the date of the application.

#### **168. Register of licences and charges.**

(1) The Minister shall keep and maintain a register of all licences issued under the Act.

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

- (a) the list of persons to whom licences are issued under the Act including their names, physical addresses and contacts;
- (b) date of grant;
- (c) conditions of each licence; and
- (d) details of expiry, renewals, registered charges, encumbrances, mortgages and pledges on the licence.

(3) The Register kept under this regulation shall be made available to the public subject to the Access to Information Act, 2005.

#### **169. Commencement of activities under licence.**

(1) Where a licence is granted under the Act and these Regulations, the licensee shall commence activities related to the licence within a period of six months from the date of grant of licence.

(2) Where the licensee does not commence activities related to the licence within six months from the date of issues, the right of the licensee to the licence shall be deemed to have lapsed, unless the licensee demonstrates to the satisfaction of the Minister that the delay is not due to the fault of the licensee.

(3) The Minister may, for reasons that he or she thinks sufficient, by notice served on the licensee—

- (a) extend the time within which to commence activities related to the licence; or
- (b) direct the licensee to commence activities related to the licence within a period specified in the notice.

(4) A licensee to whom a direction is given under subregulation (3) (b) shall comply with the direction.

(5) Where a change occurs in respect of any particulars contained in the application before the licence is granted or refused, the applicant shall notify the Minister of the change.

(6) The Minister may revoke a licence of a person who fails to comply with this regulation.

### **170. Submission of designs.**

(1) The licensee shall submit to the Authority the Front End and Engineering Design of a facility for approval.

(2) Where the Authority identifies any material deficiencies, errors or omissions in the Front End Engineering Design submitted by the licensee in subregulation (1), the Authority shall notify the licensee within sixty days of receipt of the Front End Engineering Design of such deficiencies, errors or omissions.

(3) Where the Authority notifies the licensee in subregulation (4), the licensee shall rectify the deficiencies, errors or omissions within a period specified in the notice and resubmit the Front End Engineering Design to the Authority for approval.

(4) Where the Authority is satisfied that the Front End Engineering Design submitted by the licensee under subregulation (1) or resubmitted under subregulation (3) meets the requirements of the Act, these Regulations, standards approved by the Authority, best petroleum industry practices and any other applicable law, the Authority shall approve the Front End Engineering Design within sixty days from the date of submission by the licensee.

(5) Where the Authority does not notify the licensee of any errors in the Front End Engineering Design within sixty days of receipt of the design, the licensee may commence construction and installation of the facility.

(6) Subregulation (5) is only applicable where the licensee submits the Front End Engineering Design in a manner approved by the Authority and has proof of acknowledgement of receipt of notification by the Authority.

(7) The licensee shall give access to the Authority or an authorised officer copies of all designs, reports, drawings and construction specifications in respect of the design and construction of the facility and the detailed design.

(8) Notwithstanding subregulations (1) and (7), the Authority may at any time require the licensee to submit copies of all designs, reports, drawings and construction specifications in respect of the design and construction of the facility, including the detailed design for the purpose of verifying or ensuring that the performance of the design and construction works in relation to the facility by the licensee are in compliance with the Act, these Regulations, any other applicable law and approved standards and best petroleum industry practices.

### **171. Consideration of materials during design.**

(1) When selecting materials for a facility during the design, the licensee shall-

- (a) take into account the loads and environmental conditions that may be incurred by fabrication, installation, maintenance, operation and changes in operational conditions;
- (b) ensure that materials have sufficient strength, ductility, fracture toughness and durability;
- (c) document the decision basis for the choice of materials; and
- (d) where new materials are introduced, the materials are verified by means of analyses, calculations and tests to ensure that the stipulated safety criteria have been met.

(2) The licensee shall give careful consideration for protection against and monitoring of corrosion, erosion and other forms of decay of materials in planning and design of mechanical equipment and facilities.

(3) The licensee shall ensure that—

- (a) altered operational conditions including changes in the facility streams are considered during the design stage; and
- (b) the foundations, rotating machinery, piping arrangements including supports and bulkhead penetrations for pipes to areas containing petroleum or other media representing a hazard potential in accident situations are made of material resistant to fire and explosion for the necessary period of time.

## **172. Suspension of operation of facility.**

(1) The Minister may, in accordance with section 68 (2) of the Act, order that the operation of a facility be suspended to the extent necessary where any of the following circumstances exist—

- (a) extreme weather conditions including floods, wind or any other conditions that is likely to affect the public or employee's health, property or safety;
- (b) in case of war or terrorism threat likely to affect the operations of the facility;

- (c) operations resulting in acute pollution to the environment as prescribed in the National Environment Act; and
- (d) a condition likely to affect the public or employee's health, property or safety.

(2) Where the licensee submits evidence to the Minister that the circumstances specified in subregulation (1) have been rectified or have otherwise ceased to exist, the Minister may, in consultation with the Authority, if he or she is satisfied that the circumstances specified in subregulation (1) have been rectified or have otherwise ceased to exist, direct the licensee to resume midstream operations, within fifteen days from the date of submission of evidence by the licensee.

(3) Where the Minister is not satisfied with the evidence submitted by the licensee in subregulation (2), the Minister shall, within fifteen days from the date of submission of evidence by the licensee, require the licensee to undertake further works to rectify the circumstances and resubmit evidence to the Minister.

(4) Where the licensee submits evidence to the Minister in subregulation (2) or resubmits evidence under subregulation (3) and does not receive any written communication from the Minister within the period specified in subregulation (2) or (3), the licensee may resume operations.

(5) Subregulation (4) shall only apply where the licensee has proof of service of the evidence to the Minister and acknowledgement of receipt of the service by the Minister.

### **173. Performance bonds, other form of security and insurance.**

(1) An applicant for a licence to construct and operate a facility shall, within ninety days after the date of the grant of a licence and in accordance with section 10 (6) (a) of the Act—

- (a) execute a performance bond of ten percent of the total capital expenditure and if the total capex exceeds one Billion United States Dollars, the value of the bond shall be capped at ten percent of one Billion United States Dollars; or

- (b) provide other forms of security approved by the Minister for the performance and observance of his or her obligations to which the licence maybe subject, which may include—
  - (i) a cash deposit in an escrow account operated by the Government of the Republic of Uganda and the licensee depositing the bond; or
  - (ii) a Bank Guarantee and any other form of credit support as maybe agreed under an agreement entered into under section 8 of the Act.

(2) The licensee shall take out the necessary insurance policy as approved by the Minister in accordance with section 10(6) (b) of the Act and any other applicable law.

#### **174. Safety principles for the design and operation of facilities.**

(1) A facility shall be designed and equipped to ensure that a single failure shall not lead to unacceptable incidents, accidents or hazards.

(2) The licensee shall take into account prevention of incidents, accidents or hazards during the design, installation, operation, maintenance and decommissioning of a facility.

(3) The licensee shall undertake and document technical, operational or contingency measures to meet the identified likely incidents, accidents or hazards and implement—

- (a) measures to reduce the probability of failure or occurrence of an incident, accident or hazard;
- (b) priority measures to reduce the consequences of the failure or accidental event occurring;
- (c) technical measures of priority over operational or contingency measures; and

- (d) collective protective measures of priority over individual protective measures.

### **175. Requirements relating to personnel qualifications.**

(1) The licensee shall ensure that employees and any other person engaged in any midstream operation are qualified for the work they are required to perform.

(2) The licensee shall maintain an up to date records of its employees and their qualifications and make the records available to the Authority for inspection upon request.

(3) The licensee shall stipulate qualification requirements for job categories of significance to safety.

### **176. Offices and working accommodation for authorised officers.**

(1) The Authority or the Minister may in consultation with the licensee and upon giving fourteen days' notice in writing, require the licensee to provide offices and other working accommodation for authorised officers.

(2) The Authority and the licensee shall from time to time agree on the number of authorised officers to be accommodated on a facility under subregulation (1).

### **177. Notification requirement.**

(1) The licensee shall notify the Authority of any installation or alteration, at least one week prior to the beginning of the installation or alteration.

(2) The licensee shall notify the Authority of repair to be undertaken at least two weeks prior to the beginning of the repair.

(3) Notwithstanding subregulation (2), where the repair is necessary to prevent or abate a release to the environment, the repair shall be performed immediately and the Authority shall be notified within twenty four hours.

(4) Where the date scheduled for installation, upgrade or repair changes, the Authority shall be notified by the licensee immediately of the change and the revised schedule.

### **178. Security of facilities.**

(1) The licensee shall ensure that—

- (a) midstream operations and facilities are secured;
- (b) petroleum commodities or petroleum products storage areas are secured to prevent theft, vandalism and any other occurrences that can compromise the security and integrity of the facility; and
- (c) permanent taps or valves through which petroleum commodities or petroleum products can be discharged to open areas are locked when not in use.

(2) The licensee shall display a notice instructing users to keep valves, nozzles and trigger guns locked when they are not in use and pumps shall protect pumps from unauthorised use.

(3) The license shall ensure that—

- (a) valve, taps or levers are corrosion resistant, strong enough to be tamperproof when locked and marked to show whether they are open or closed and when not in use, they are locked; and
- (b) where the tank is being decommissioned, any valve, taps or levers are fitted with a blanking cap or plug.

### **179. Emergency power and emergency lighting.**

(1) A facility or midstream operation shall have a reliable, robust and simple emergency power system that ensures sufficient supply of power to equipment and systems to function in the event of a main

power failure.

(2) The licensee shall ensure that interruptions do not entail operating problems for the emergency power users when switching from main power to emergency power.

(3) The licensee shall ensure that—

(a) emergency power system has minimal automatic disconnection functions to ensure continuous operation; and

(b) each facility is equipped with emergency lighting that ensures necessary lighting on the facility in the event of main lighting failure.

### **180. Petroleum commodities or petroleum products spills.**

(1) The licensee shall comply with regulations made under the National Environment Act for oil spills.

(2) The licensee shall keep a spill kit with commercial sorbent products, sand or earth close to the facility to deal with spills, and ensure that employees know how to use it safely.

(3) Where there is a petroleum commodities or petroleum products spill, the licensee shall take immediate action to stop the petroleum commodities or petroleum products getting into any drains or watercourses.

(4) The licensee may soak up the spilt petroleum commodities or petroleum products with the contents of the spill kit, without putting human life or the environment in danger.

(5) The licensee shall not hose down or use any detergents as a means of mitigating a spillage.

(6) The licensee shall immediately notify the Authority of any spill at a facility or during a midstream operation.

(7) Where petroleum commodities or petroleum products soak into the ground, the petroleum commodities or petroleum product shall be cleaned by the licensee in accordance with regulations made under

section 3 (8) of the Act and the National Environment Act.

(8) The licensee shall store any materials that are soaked in petroleum commodities or petroleum products in containers that shall not let the petroleum commodities or petroleum products to escape until it can be disposed of in accordance with regulations made under section 3 (8) of the Act and the National Environment Act.

(9) Surface and subsurface petroleum commodities or petroleum products and groundwater samples may be taken and tested for petroleum commodities or petroleum products in the event of a spill.

### **181. Gas compression facilities.**

The licensee shall ensure that—

- (a) rotating compressors are fitted with, necessary surge control equipment and necessary pressure relief;
- (b) piston compressors are fitted with necessary equipment to reduce pressure pulsations, and have necessary pressure relief;
- (c) gas compression facilities are protected by liquid separators and drainage of liquid take place in a safe and prudent manner;
- (d) liquid separators are equipped so that the gas compression facility is shut down in the event of an abnormally high fluid level;
- (e) in the event of an abnormally low fluid level, the discharge valve for drainage can be automatically closed;
- (f) liquid separators are capable of efficiently collecting liquid drops and free liquid in the gas stream to the compressors in all operating conditions; and
- (g) compressors with a seal oil arrangement have an effective degassing equipment for the seal oil and the compressors are secured against seal oil failure until they have been stopped or

depressurised.

### **182. Gas drying facilities.**

The licensee shall ensure that gas drying facilities are designed to achieve the dew point of the purchase or delivery specifications.

#### *Selection of Materials*

### **183. Fire technical requirements relating to equipment, load bearing structures and materials.**

(1) The licensee shall ensure that—

- (a) equipment intended for use during a dimensioning fire has fire resistance properties; and
- (b) load bearing structures at a facility or used in midstream operations have fire resistance to ensure support of the design load resulting from a dimensioning fire.

(2) The licensee shall ensure that—

- (a) materials on the installations and facilities are non-combustible in nature; and
- (b) where a total evaluation is deemed justifiable from a safety point of view to use of materials that do not meet the requirements to incombustibility, the materials have limited flame spread properties, low smoke development and low heat generation.

(3) The licensee shall make assessment of the material to determine the toxicity of gases emitted in the event of a fire.

(4) The licensee shall ensure that documentation is available to support the basis for the decision regarding choice of materials.

### **184. Protection against fire and explosion loads.**

The licensee shall put in place measures to ensure that foundations, rotating machinery, piping arrangements including supports and bulkhead penetrations for pipes to areas containing petroleum commodities or petroleum products or other substance representing a hazard potential during incidents, hazards or accident situations are designed, constructed and installed to resist fire and explosion for the

necessary period of time.

### *Offences and Penalties*

#### **185. Offences and penalties.**

(1) A person who commits an offence under regulations 49 (4) and 84(4) is liable on conviction to a fine not exceeding five thousand currency points.

(2) A person who—

- (a) constructs a facility without a licence;
- (b) commences operation of a facility without a permit issued by the Authority;
- (c) alters or substantially modifies a facility without the approval of the Minister;
- (d) transmits petroleum commodities or petroleum products without a licence;
- (e) transfers a licence without the approval of the Minister;
- (f) uses a licence as security without the approval of the Minister; or
- (g) fails to submit information, reports, or data required under these Regulations,

commits an offence and is liable on conviction to a fine not exceeding five thousand currency points.

(3) Where the offence committed by any person under these Regulations is a continuous offence, the person shall, in addition to any penalty under these Regulations, be liable on conviction to a fine not exceeding five hundred currency points in respect of each day on which the offence continues.

(4) Where the offence committed under these Regulations is a second or subsequent offence, the person shall be liable on conviction to a fine not exceeding five thousand and five hundred thousand currency points or imprisonment not exceeding twelve years or both in respect of