

Extraordinary



Federal Republic of Nigeria Official Gazette

No. 106

Lagos - 13th June, 2023

Vol. 110

Government Notice No. 71

The following is published as supplement to this *Gazette* :

<i>S. I. No.</i>	<i>Short Title</i>	<i>Page</i>
33	Midstream and Downstream Petroleum Safety Regulations, 2023	.. B773-799

Printed and Published by The Federal Government Printer, Lagos, Nigeria
FGP 98/62023/350

Annual Subscription from 1st January, 2023 is Local : ₦50,000.00 Overseas : ₦65,000.00 [Surface Mail]
₦80,000.00 [Second Class Air Mail]. Present issue ₦3,000 per copy. Subscribers who wish to obtain *Gazette*
after 1st January should apply to the Federal Government Printer, Lagos for amended Subscriptions.

B 772

PETROLEUM INDUSTRY ACT, NO. 6, 2021
MIDSTREAM AND DOWNSTREAM PETROLEUM SAFETY
REGULATIONS, 2023



ARRANGEMENT OF REGULATIONS

Regulation :

PART I — GENERAL PROVISIONS

1. Objectives
2. Application

PART II — DUTIES OF LICENSEES AND PERMIT HOLDERS

3. Duties of licensees and permit holders
4. Facility development project, abandonment and decommission

PART III — DUTIES OF A MANAGER

5. Compliance with Regulations
6. Technology adaptation
7. Personnel protection
8. Occupational health
9. Noise abatement
10. Safety training
11. Operations, inspections and maintenance
12. Confined space and tank integrity management
13. Maintenance of storage facilities, pipelines and lifting operations
14. Spares, standard operating procedure and management of change
15. Fire precaution and firefighting equipment
16. Risk based inspection
17. Minimum training
18. Incident reporting
19. Reporting of accidents and reporting format
20. Offshore operations
21. Journey management
22. Waste management
23. Gas detection
24. Industry best practice
25. Petroleum haulage operations
26. Handling of radioactive materials

- 27. Signages
- 28. Restriction of use of internal combustion engines
- 29. Offshore operations
- 30. Safe access
- 31. Restricted area
- 32. Display of Regulations

PART IV — DUTIES OF PERSONNEL

- 33. Competent person to ensure compliance with Regulations
- 34. Exclusion of children
- 35. Prohibition of accumulation of flammable materials
- 36. Use of PPE, housekeeping
- 37. Machinery safeguards
- 38. Electrical apparatus
- 39. Signaling equipment
- 40. Sleeping or drinking on duty
- 41. Prohibition of smoking in restricted areas
- 42. Other safety measures

PART V — DIVING OPERATIONS : RESPONSIBILITIES AND REQUIREMENTS

- 43. Diving operations
- 44. Diving contractors
- 45. Diving supervisor
- 46. Diver
- 47. Stand-by divers
- 48. Extra diver

PART VI — MISCELLANEOUS PROVISIONS

- 49. Powers to access facilities
- 50. Application and service charge
- 51. Accident investigation and inquiries into accidents
- 52. Summons
- 53. Offences and penalties
- 54. Burden of proof
- 55. Guidelines, directives and notices
- 56. Interpretation
- 57. Citation

S. I. No. 33 of 2023

PETROLEUM INDUSTRY ACT, NO. 6, 2021
MIDSTREAM AND DOWNSTREAM PETROLEUM SAFETY
REGULATIONS, 2023

[10th Day of May, 2023] Commence-
ment

In exercise of the powers conferred on it by sections 32(a), (bb), (cc), (hh) and 33 of the Petroleum Industry Act, No. 6, 2021 (“Act”) and all other powers enabling it in that behalf, the Nigerian Midstream and Downstream Petroleum Regulatory Authority (“Authority”) makes these Regulations—

PART I — GENERAL PROVISIONS

1. The objectives of these Regulations are to —

Objectives

(a) provide for the safety standards to be observed during midstream and downstream petroleum operations ;

(b) regulate safety and occupational health in Nigerian midstream and downstream petroleum operations ;

(c) set out the permits, authorisations and fees for such midstream and downstream petroleum operations ; and

(d) provide sanctions, penalties and administrative fines for failure to comply with these Regulations.

2. These Regulations shall apply to all activities connected to safe operations of the midstream and downstream petroleum industry in Nigeria.

Application

PART II — DUTY OF LICENSEES AND PERMIT HOLDERS

3. A licensee or permit holder shall—

Duties of
licensees and
permit
holders

(a) appoint, in writing, a manager who shall take continual charge of all operations authorised by the Authority ;

(b) notify the Authority of every appointment made under paragraph (a) and any subsequent change not later than 72 hours of such appointment or change ;

(c) provide its personnel with appropriate safety equipment and personal protective equipment (PPE) of internationally approved standard and ensure that such equipment is always maintained in good condition ;

(d) establish emergency medical procedures including an appropriately manned and well-equipped onsite clinic, standard first aid boxes and automated external defibrillators situated at strategic locations in the facility, and medical evacuation procedures ;

(e) provide firefighting and first aid equipment at every facility or installation in accordance with best industry standards ;

- (f) ensure that all personnel and contractors undergo occupational fitness tests and minimum industry training as may be specified by the Authority ;
- (g) provide clear, comprehensive, safe and practical operational procedures and guidelines for its personnel ;
- (h) develop good health protection and promotion programmes for its personnel, and mandate all its contractors to take similar actions ;
- (i) ensure that all contract documents entered into with contractors specify the responsibilities of contractors with regards to safety of operations ;
- (j) develop and maintain contingency procedures and measures for the safety of personnel and equipment in an emergency ;
- (k) develop and regularly update an integrated emergency plan for the management of hazardous events and accident situations that are likely to occur and ensure drills are carried out periodically ;
- (l) ensure that all laboratories used for petroleum operations are accredited by and operated in a manner prescribed by the Authority ;
- (m) ensure that its operations are undertaken with a valid and appropriate licence, permit or authorisation ; and
- (n) discharge such other duties as the Authority may prescribe.

Facility
development
project,
abandonment
and
decommission

4.—(1) In the implementation of facility or equipment design, engineering, procurement, construction, modification, upgrade, commissioning or decommissioning, a licensee or permit holder shall ensure that—

- (a) comprehensive safety studies, including hazard and risk assessment of the project in accordance with relevant Authority’s guidelines and other internationally accepted standards, are carried out where applicable ;
- (b) all major accident hazards associated with the project or facility have been identified, recorded, analysed and reduced to As Low As Reasonably Practicable (ALARP) ;
- (c) safety, emergency and communication systems conform to acceptable standards and specifications in the oil and gas industry ;
- (d) the Authority participates in all technical safety studies, technical safety audits, critical equipment inspections and tests or other activities as may be determined by the Authority ;
- (e) pre-startup safety audit is conducted and approval is obtained from the Authority prior to commissioning or start-up of petroleum operations ; and
- (f) every installation or facility has a valid safety case or safety clearance duly approved by the Authority and comply with relevant guidelines issued by the Authority for that purpose.

(2) A licensee or permit holder shall ensure that —

(a) it has a well-defined decommissioning and abandonment plan for all its oil and gas handling facilities ;

(b) its decommissioning and abandonment plan complies with all current regulations, guidelines and procedures for decommissioning and abandonment of facilities in the midstream and downstream oil and gas industry and be approved by the Authority ; and

(c) the implementation of the decommissioning and abandonment plan shall be undertaken in a manner that ensures that the removal and disposal of equipment and facility used or in connection with the operation is done safely and in a manner that ensures that the environment continues to remain safe.

(3) A licensee or permit holder shall —

(a) ensure that all operational rules, procedures, and guidelines made under these Regulations are fully understood and complied with by the licensee or permit holder's personnel and contractors ; and

(b) ensure the overall safety of people, processes, operations and equipment associated with the facility or project under its management.

(4) A licensee or permit holder shall ensure that for a planned shutdown of a facility —

(a) procedure for shutdown and startup is developed ;

(b) the Authority is notified prior to the commencement of the shutdown ;

(c) hazard assessment is conducted prior to the shutdown, to ensure the safety of personnel and facility ; and

(d) no deviation from the shutdown and start-up procedure shall be undertaken without a Management of Change.

PART III — DUTIES OF A MANAGER

5. A manager appointed under these Regulations shall —

(a) ensure compliance with the provisions of these Regulations, guidelines or any other directives issued by the Authority ;

(b) comply with the duties of a manager as set out in the Midstream and Downstream Petroleum Operations Regulations made by the Authority ;

(c) appoint in writing a competent person to oversee and be responsible for health safety, environment and community matters and report the appointment or subsequent change to the Authority not later than 72 hours of such appointment or change ; and

(d) ensure that all personnel are given appropriate training for the efficient and safe discharge of their duties.

Compliance
with
Regulations

B 778

Technology
adaptation

6. The Manager shall ensure compliance with the technology adaptation requirements as set out in the Midstream and Downstream Petroleum Operations Regulations made by the Authority.

Personal
protection

7. A Manager shall ensure that —

(a) adequate safety equipment, that meet international standards, are provided for personnel ;

(b) PPE is used appropriately and maintained in serviceable condition at all times ; and

(c) appropriate barriers and risk reduction measures are in place to ensure that personnel exposure to hazards are reduced to ALARP, and the risk reduction measures for hazards shall comply with hierarchy of hazard control philosophy.

Occupational
health

8. A Manager shall —

(a) produce and conspicuously display at every facility, an up-to-date information on the names, addresses and telephone numbers of the nearest physicians, hospitals and ambulance services ;

(b) ensure that first aid kits are equipped with appropriate medicament and served by qualified first aid personnel ;

(c) ensure that contingency plans are in place to deal with injuries that are more serious than first aid cases ;

(d) ensure that there are functional medical facilities adequately equipped with medicaments, competent personnel and med-evac system to deal with situations arising from paragraph (c), and the qualified medical personnel shall at the minimum, possess nursing certification and be registered with and authorised by the Nursing and Midwifery Council of Nigeria ;

(e) ensure pre-employment medical assessment is carried out to establish the health status and fitness to work of each employee prior to engagement, and thereafter conduct periodic medical assessment at a maximum of two-yearly intervals and ensure that all contractors take similar actions ; and

(g) comply with the provisions of all occupational health directives or guidance issued by the authority for medical assessment of fitness to work in the midstream and downstream petroleum operations in Nigeria.

Noise
abatement

9. A Manager shall ensure that—

(a) personnel are provided with the appropriate hearing protection if noise levels are equal to or greater than 85 dBA for an 8-hour Time Weighted Average (TWA) ;

(b) a person shall not be exposed to noise level equal to 115 dBA or greater for any length of time, notwithstanding that the TWA is below 85 dBA action level unless the person is appropriately protected ;

(c) the sound pressure level at the edge of the nearest residential area shall not exceed 50 dBA at night ; and

(d) annual audiometric tests are conducted for all personnel working in high noise areas and results made available on demand to the Authority.

10. A manager shall ensure that personnel —

(a) employed in offshore or swamp operations receive basic safety, emergency and survival training and undertake refreshers as appropriate, including—

- (i) basic first aid and Cardiopulmonary Resuscitation (CPR),
- (ii) confined space escape,
- (iii) basic firefighting and self-rescue,
- (iv) helicopter under water and survival-at-sea training, and
- (v) lifeboat operation and usage ;

(b) employed in midstream and downstream petroleum operations receive and undertake refreshers as appropriate in —

(i) minimum industry safety training for the facility or operation which includes HSE training for retail outlet, bulk storage, lube blending, product haulage, natural gas safety and operations integrity,

(ii) advanced safety training as appropriate for their specific job function which includes training and certifications for work at height, scaffolding and crane operations, and

(iii) such other training as the Authority or the manager may deem necessary for the operation ; and

(c) undertake such trainings in paragraph (b) at a training facility approved by the Authority.

11. A manager shall ensure that —

(a) equipment is operated and kept within its Integrity Operating Window (IOW) ;

(b) process equipment has required controls and safety systems that monitors and actively control its IOW ;

(c) equipment that falls short of its IOW shall be removed from service except such equipment is derated and applied to a service proportionate to its new capacity such that it assumes a new IOW ;

(d) derating an equipment and defining IOW shall be—

- (i) carried out by competent persons, and
- (ii) certified by an appropriate third party, and approved by the Authority ;

Safety
training

Operations,
inspections
and
maintenance

(e) work at height, scaffolding, rope access, and other similar operations shall conform to internationally recognised standards and comply with the current guidelines and requirements for work at height in the midstream and downstream oil and gas industry as approved by the Authority ;

(f) rotating or reciprocating equipment and every dangerous part of any machinery shall be securely fenced or guarded, where it is practical to do so ;

(g) Heating, Ventilation and Air Conditioning (HVAC) are provided as appropriate for all enclosed areas of the installation such as living quarters, electrical switch rooms, equipment rooms and others with potential of build-up or ingress of harmful gases ;

(h) boiler or oil treater shall be thoroughly inspected by competent personnel at intervals of 12 calendar months and fire tubes replaced when at the minimum thickness ;

(i) non-destructive test, including Ultrasonic Thickness Measurement (UTM) survey or radiographic or any other acceptable inspection techniques shall be carried out on the boiler tube during an inspection under paragraph (h) and to comply with applicable industry codes and any other internationally accepted standards ;

(j) pressure tests shall be carried out at intervals of not more than 24 months in accordance with the manufacturer's recommended designed test pressure limits ;

(k) the results of every inspection, test and survey carried out under these Regulations shall be systematically documented, maintained and made available to the Authority on demand ;

(l) installation of electrical equipment at all midstream and downstream petroleum operations shall comply with the applicable code of international practice ;

(m) electrical apparatus in use in all midstream and downstream petroleum operations shall comply with the national and internationally recognised specifications and codes of practices for intrinsically safe equipment that is, safe flame or explosion proof apparatus ;

(o) cable gland and bolted cable coupler shall be constructed and installed in conformity with relevant recognised international standards for flame or explosion proof fitting of the type ;

(p) wiring activities in the midstream and downstream petroleum industry shall be —

(i) in a manner which protects from abrasion, being trampled on or burnt by hot piping,

(ii) insulated to resist weather, chemical and handling to avoid short circuits, and

(iii) inspected frequently, as required in compliance with the national and international codes or similar Institute of Electrical Engineers Codes and good oil field practices ;

(q) apparatus, cable, fitting and any other electrical material shall be installed and maintained to ensure that the flame proof or explosion proof characteristics, as the case may be, are not invalidated ;

(r) apparatus used for communication purpose within a dangerous area, shall be certified intrinsically safe in conformity with acceptable and recognised standards ;

(s) control device conform to industry best practice, with respect to design, installation and maintenance, and safety guards shall be incorporated as applicable, to avoid accidents ;

(t) pressure gauge used within hydrocarbon handling installations shall be —

(i) inspected and calibrated for accuracy at intervals not exceeding 12 months, and

(ii) tagged with relevant maintenance details ;

(u) pressure vessel and its fittings in operation shall be regularly examined in accordance with the manufacturer's recommendations and where no recommendations exist, then inspection shall be carried out in accordance with best practice ;

(v) records of every inspection carried out under these Regulations shall be maintained and made available to the Authority on demand ;

(w) oil heater and its internal and external parts or fittings shall be inspected at intervals of not more than 12 months and the fire tubes replaced when they are at the minimum thickness ;

(x) compressed air system or receiver shall be —

(i) drained of liquid every day and the liquid appropriately disposed of, and

(ii) tested to the recommended pressure hydraulically or other methods approved by the Authority when the internal surface of the receiver cannot be inspected, and in any other case, at least once in every 36 months ;

(y) gas separator and scrubber shall be tested to the recommended test pressure in accordance with applicable industry codes but at intervals not more than five years ;

(z) vessel that has been in service for more than 20 years, shall be —

(i) assessed to establish remaining life,

(ii) inspected at intervals of not more than 18 months, and

(iii) tested hydraulically to the recommended test pressure during the inspection ;

(aa) relief valve and process safety valve shall be inspected at least once in every 18 months or at such shorter intervals as shall be necessary to maintain them in satisfactory conditions to ensure that it —

(i) operates effectively whenever the maximum allowable working pressure is applied, and

(ii) pass full design quantity at those settings ;

(bb) safety valves shall be stamped or tagged at its popping-pressures, and where appropriate, bursting discs of equivalent rating may be used in lieu of safety valve ;

(cc) pressure vessel shall be tested with a calibrated pressure gauge which shall be —

(i) graduated in pounds per square inch or the metric equivalent, and

(ii) checked for accuracy at intervals not more than 12 months ;

(ee) calibration of pressure relief valves, process safety valves, pressure gauges and other process safety equipment shall be certified by accredited persons ;

(ff) new, repaired, or modified pipework shall be tested in accordance with the American Society of Mechanical Engineers (ASME) working standards or recognised equivalent standards to 1.25 times the maximum allowable working pressure before being put into service ;

(gg) pressure vessel, equipment and associated piping used in midstream and downstream petroleum operations shall meet internationally recognised standards for monitoring and controlling corrosion, with respect to the design, construction, routine inspection, testing and maintenance ;

(hh) the following measures shall, in addition to the respective manufacturer's recommended procedures, be taken in relation to every pressure vessel, equipment and associated piping used in midstream and downstream petroleum operations, that is—

(i) non-destructive testing, including UTM, shall be carried out at intervals not more than once in three years to check the rate of both internal and external corrosion and erosion,

(ii) when corrosion coupons are used for monitoring the corrosion rate in a pressure vessel, equipment or piping, the results obtained at any given time shall be recorded and be made available to the Authority on demand, and

(iii) when cathodic protection system is chosen for the control of vessel internal corrosion, an appropriate design of the system shall be made to meet internationally recognised standards ;

(ii) result of the inspection, test and survey carried out under this regulation shall be made available to the Authority on demand ;

(jj) permanently placed bulk storage tank containing petroleum liquids shall —

(i) be installed within a bund wall capable of containing the contents of the largest tank plus 10% of the volume of the remaining tanks within the enclosure,

(ii) be fitted with access ways sufficiently large to allow easy access, and vents capable of relieving any excess pressure or vacuum,

(iii) have access to its roof by means of a ladder or staircase of

approved standards,

(iv) make provisions for containing any leakage to prevent contamination of the environment by the product or content of the tank,

(v) be provided with efficient electrical earth connections, having an electrical resistance value not more than fiveohms when measured by an earth resistance tester of the Megger or similar type and shall be inspected at intervals of not more than 12 months,

(vi) be provided with adequate and dedicated fire detection and suppression system,

(vii) be provided with adequate lightning protective device of the “Envelope Protection Type” that prevents any direct strike and the development of primary and secondary charges,

(viii) be provided with device equipped with multi-point ionizers, or with any other device of similar protection effectiveness as recommendation by any other relevant international bodies and approved by the Authority, and

(ix) floating roof tank shall be equipped with adequate wind girders.

12. A manager shall ensure that —

(a) personnel or contractors do not enter into a confined or semi-confined space or a hydrocarbon storage tank for inspection or maintenance, except that the —

(i) confined or semi-confined space or a hydrocarbon storage tank is certified safe, continuously ventilated and tested to safe levels of hydrocarbon and harmful gases,

(ii) person has undergone appropriate training and risk assessment for that purpose, and

(iii) person shall enter with adequate and proper PPE including breathing apparatus ;

(b) during storage tank cleaning operations —

(i) manned entry is completely prohibited, and appropriate and acceptable automated or mechanical technologies approved by the Authority shall be employed, and

(ii) if the gas concentration in a storage tank exceeds 5% of LEL, the tools used shall not be capable of causing sparks, and all equipment used shall be certified Flame Proof Group II, in conformity with recognised international standards ;

(c) storage tanks shall be opened for internal inspection at intervals of not more than 60 calendar months ;

(d) during an inspection —

(i) the tank shall be subjected to thorough visual and non-destructive tests,

Confined
space and
tank
integrity
management

- (ii) any defect affecting the integrity and operability of the tanks observed shall be rectified, and
- (iii) UTM of tank shells shall be carried out and records made available to the Authority on demand ;
- (e) a person shall not enter any tank, confined or semi confined space which has contained hydrocarbon unless —
 - (i) the tank has been certified safe by a competent person, or
 - (ii) there is attached to the person, a lifeline held by another person standing outside at a safe distance and in a position to observe if the person is overcome by gas or fumes ;
- (f) a person shall not enter a sump which has contained hydrocarbons unless there is attached to the person, a lifeline held by another person standing —
 - (i) at the top of the sump at a safe distance, and
 - (ii) in a position to observe if the person is overcome by gas or fumes ;
 - (g) a person holding a lifeline referred to in paragraph (e) and (f) shall be adequately trained for that purpose and —
 - (i) if an accident occurs, call for help, and
 - (ii) be equipped to render such assistance as is practicable without entering the tank or sump until help arrives ;
 - (h) tank bottom plate shall be inspected by competent personnel using methods or technologies that are safe and effective as may be determined by the manager and approved by the Authority ;
- (i) results of the inspections in paragraph (d) and (e) shall be documented and made available to the Authority on demand; and
- (j) the bottom plate of every tank shall be effectively equipped with cathodic protection device which shall be designed to meet internationally recognised standards.

Maintenance
of storage
facilities,
pipelines
and lifting
operations

13. A manager shall ensure that —

- (a) processes for the effective monitoring of cathodic protection systems are regularly reviewed and updated in accordance with the standards designed for the system ;
- (b) the internals of tanks shall be coated appropriately to meet NACE standards and other recognised requirements approved by the Authority;
- (c) floor plate coating shall be 100% inspected using appropriate equipment such as holiday detector ;
- (d) all hydrocarbon storage tanks shall be sited at a safe distance from any dangerous area in a direction downwind from the prevailing wind ;
- (e) all crane and hoist shall be operated by a trained person who shall always ensure that the crane or hoist is never used to lift loads more than the maximum crane capacity or safe working limit ;

(f) all chains, ropes, lifting tackle, hook and brake system of the crane or hoist shall be inspected and maintained as recommended by its manufacturer ;

(g) general preventive maintenance shall be carried out on every crane and hoist as recommended by the manufacturer or at intervals of not more than 12 months ;

(h) periodic maintenance records shall be kept and made available on demand by the Authority ;

(i) pipeline used in an operation shall be designed, constructed and maintained in accordance with the relevant provisions of the ANSI, ASME, DNV, NACE and other applicable national and international standards and best practice and in compliance with the relevant guidelines issued by the Authority ;

(j) a pipeline shall be put into operation unless commissioning approval has been obtained from the Authority ;

(k) the right of way of every pipeline shall be free of over-growth, weeds to allow for free access to carry out operational tests, and any other maintenance work and for prompt detection of leakages ;

(l) pipelines conveying hydrocarbons shall be designed with pigging facility to allow pigging operation to be conducted at intervals not more than five years ;

(m) an initial data gathering shall be obtained from any newly commissioned pipeline and this shall form the basis for the integrity of the facility ;

(n) pipeline pressure testing shall be carried out at intervals of not more than five years at pressure of at least 125% of the maximum operating pressure ;

(o) a pipeline running on the surface shall be externally coated to meet the relevant provision of the NACE or equivalent standards to prevent atmospheric corrosion attack ;

(p) pipeline shall be suitably coated before burial and cathodic protection provided—

(i) within 12 months, in the case of dry land, and

(ii) within six months, in the case of swamp land, and

the cathodic protection system shall be designed and constructed to meet the NACE standards or other internationally recognised equipment standards;

(q) cathodic protection potential survey shall be carried out on all buried pipelines at intervals of not more than 24 months to ensure that every section of the protected line attains a negative potential of at least 850mV with reference to copper or copper sulphate reference electrode ;

(r) the result obtained during a survey carried out under paragraph (q) shall be recorded and made readily available on demand, and the Authority may appoint officials to witness any periodic survey carried out under paragraph (q) ;

(s) all other applicable safety provisions for the design, construction, commissioning, operation and maintenance of pipelines shall be as stipulated in the current editions of the guidelines issued by the Authority ; and

(t) inspections and maintenance operations shall be conducted according to original manufacturer specifications, company specific inspection procedures, or in accordance with the Risk Based Inspection (RBI) guidelines issued by the Authority and conform with best practices.

Spares,
standards
operating
procedure
and
management
of change

14. A manager shall ensure —

(a) that there are adequate spares for critical safety equipment, and that such spares are made available and ready for use when required ;

(b) development and continual update of a comprehensive Management of Change (MOC) Procedure for facilities and operations under its management ;

(c) that deviations shall not be made from Standard Operating Procedures, equipment or process configuration and no change shall be made to the facility that may introduce risk, unless such deviation or change is risk assessed, subjected to MOC Procedures and approved in writing by the manager ;

(d) that all deviations and changes shall be documented, systematically recorded and made available to the Authority on demand ; and

(e) that Standard Operating Procedures (SOP) shall be developed for each major or safety critical equipment.

Fire
precaution
and
firefighting
equipment

15. A manager shall ensure that—

(a) proper hazardous area classification is carried out ;

(b) there are restricted areas in which open light, fire and smoking are prohibited ;

(c) adequate number of approved firefighting equipment are provided ;

(d) adequate means designed to extinguish fires which may occur in midstream and downstream petroleum operations shall be provided and kept in readiness for immediate use ;

(e) the firefighting equipment shall be inspected —

(i) visually at least once a month in accordance with the manufacturer's recommendations, and

(ii) twice a year by a competent person, and always maintained in serviceable condition ;

(f) the date of the last inspection of a firefighting equipment shall be tagged or painted on the appliance and the result of the inspection entered in a logbook kept on site for that purpose;

(g) personnel shall be —

(i) trained on the use of firefighting equipment with clear and concise instructions prominently displayed on the location, and

(ii) given refresher courses in a maximum period of four years to reinforce and update their abilities to use the firefighting appliances ;

(h) a “No Smoking” sign is prominently posted at strategic points in a restricted area ;

(i) when a pipeline runs in an open trench, a fire stop shall be provided at such intervals as may be specified in the relevant guidelines, except that the distance between any two fire stops shall not be more than 90 metres ;

(j) a fire clearance zone of a minimum of three metres shall be maintained around the perimeter fence of any petroleum operations ; and

(k) a company which maintains a firefighting unit or service shall while responding to or engaged in or returning from a firefighting operation, have the right of access, right of way and security of its fire equipment as granted to the Federal Fire Service under the Fire Service Act.

Cap. F29,
LFN, 2004

16. Notwithstanding the provisions of these Regulations, a manager may apply for the implementation of a RBI program for a petroleum operation, and such application shall be in conformity with the prescribed format set out in the relevant guidelines for the implementation of RBI issued by the Authority.

Risk based
inspection

17. A manager shall be responsible for the safety of personnel and contractors and shall ensure that adequate safety and risk awareness trainings and certifications are given to personnel and contractors prior to their deployment at onshore or offshore locations.

Minimum
training

18. A Manager shall establish a system to ensure that personnel report all incidents without any repercussion to the person making the report, unless there is willful misconduct, negligence or criminal intent on the part of the person making the report.

Incident
reporting

19. A Manager shall —

(a) within 24 hours of occurrence submit to the Authority a full report of an accident that occurs in connection with midstream and downstream petroleum operations involving —

Reporting of
accident and
reporting
format

(i) death of a person,

(ii) fire or explosion, and

(iii) accident resulting in serious injury ; and

B 788

(b) ensure that the report of such incident conforms with the current incident reporting format and guidelines as approved by the Authority.

Offshore operations.

20. For the safe conduct of offshore operations, a manager shall ensure that —

(a) all operational facilities such as platforms and vessels are well equipped and adequate for the environment of operation ;

(b) pre-mobilisation and pre-shipment safety inspection of operational facilities shall be conducted by the Authority prior to deployment or operation in the Nigerian oil and gas industry ;

(c) there is a good oil spill response plan and equipment approved by the Authority ;

(d) competent and well-equipped diving standby set-up is available when diving operations are in progress or are likely to be required ;

(e) there are personnel floatation devices for each person at the location ;

(f) a platform or vessel evacuation plan is in place and understood by all personnel at the location ;

(g) all personnel working in swamp and offshore locations are fully accounted for with an accountability system prescribed by the Authority ;

(h) personnel comply with the current guidelines and procedure for travel to offshore or swamp location ;

(i) on arrival at the location, personnel shall receive instruction on proper use of life-saving equipment and safety procedures including evacuation mode ; and

(j) other things and materials necessary for safe operation are made available.

Journey management

21. A manager shall ensure that —

(a) all journey and travel shall be undertaken using an approved journey management plan that caters for contingencies ;

(b) embarkation to offshore or swamp facilities shall be through embarkation points recognised and approved by the Authority;

(c) passengers travelling to midstream and downstream oil and gas locations shall, before the commencement of any air, land or marine travel, be briefed by ground crew and appropriate personnel on safety and emergency measures ;

(d) passengers shall await the aircraft, vehicle or boat at designated locations ; and

(e) pilots comply with Nigerian air safety requirements to —

(i) undertake biennial reviews to certify flight performance ability,

(ii) successfully complete water survival courses,

(iii) undertake refresher courses, and

(iv) undertake such other requirements as may be imposed for pilots.

- | | |
|---|---|
| <p>22. A manager shall ensure that the handling and disposal of all waste generated from midstream and downstream petroleum operations are managed in accordance with environmental guidelines issued by the Authority.</p> | <p>Waste management</p> |
| <p>23. A manager shall provide appropriate equipment and systems for immediate detection and effective control of greenhouse gases, or other harmful and combustible gases.</p> | <p>Gas detection</p> |
| <p>24. A manager shall subject to the approval of the Authority ensure that where no specific provision in these Regulations is made, midstream and downstream petroleum operations shall conform with industry best practices.</p> | <p>Industry best practices</p> |
| <p>25. A manager shall ensure that —</p> <p>(a) marine vessels, rail wagons and bulk road vehicles used for the storage and transportation of petroleum and its derivatives are certified fit for purpose and approved by the Authority ;</p> <p>(b) the vessels, wagons and vehicles are adequately inspected and maintained in accordance with the requirements of the Authority and other relevant local and international codes and standards ;</p> <p>(c) records and results from the inspections carried out under paragraph (b) be kept and made available to the Authority on demand ;</p> <p>(d) the last and next inspection dates are clearly marked and made visible on all vessels that store and handle petroleum liquids ; and</p> <p>(e) standard operating procedures are developed and maintained for storage, loading, transportation and offloading operations for all classes of petroleum and its derivatives including proper earthing as stipulated by guidelines issued by the Authority.</p> | <p>Petroleum haulage operation</p> |
| <p>26. A manager shall ensure that —</p> <p>(a) radioactive sources planned to be used in a midstream and downstream petroleum operation shall be registered with the Authority ;</p> <p>(b) necessary information as may be required by the Authority in respect of the radioactive source is provided ;</p> <p>(c) a competent person appointed under these Regulations, takes all practicable measures to prevent exposure of personnel to radioactive materials ;</p> <p>(d) appropriate training shall be given to personnel on the nature of radiological hazards and the precautions to be observed for all radioactive materials in use in the operations they are engaged in ;</p> <p>(e) disposal or accumulation of radioactive wastes is not made except in accordance with the NNRA Code of Practice and IAEA procedures ;</p> <p>(f) the NNRA Code of Practice and all the IAEA guidelines and recommended standard practices for handling, shipping, transportation, storage and use of radioactive sources are complied with ;</p> | <p>Handling of radioactive materials.</p> |

B 790

(g) radioactive sources of minimum strength for the required task are used ;

(h) special shielded containers are used to store and transport radioactive sources ;

(i) the transport index of each radioactive source is conspicuously displayed or tagged on the container ;

(j) personal dosimeters are issued to and worn by radiation personnel and be evaluated on monthly basis ;

(k) recommended dose levels by the NNRA, IAEA and the International Commission on Radiation Protection are complied with, but in general, the annual dose level in the case of —

(i) average exposure of radiological personnel over a five year period shall not exceed 20mSv per annum, and annual exposure shall not exceed 50mSv (25uSv per hour for 2000-hour exposure per year), and

(ii) non-radiological personnel (the public) shall not exceed 100mr (1mSv) per year ; and

(l) where a tool containing a radioactive source is missing it shall be promptly reported to the Authority with details.

Signages

27. A manager shall ensure that —

(a) safety signs are prominently displayed to provide awareness, caution and direction, such as areas of “No Smoking”, “high noise”, “exit”, and “muster point” ;

(b) relevant information of emergency contact and numbers such as nearby emergency firefighting outfits are also displayed ; and

(c) appropriate hazard communication channels are developed, such as use of posters, bulletins, slogans and jingles.

Restriction of use of internal combustion engine

28. A manager shall ensure that the use of internal combustion engines in an area classified as highly flammable is prohibited unless adequate precautionary measures have been taken to prevent fire or explosion.

Offshore operations

29. A manager shall ensure that a management system manual is made available for every offshore operation which specifies the —

(a) share of responsibilities between marine crew and processing crew ;

(b) lines of command in an emergency ;

(c) share of responsibilities between offshore organisation and onshore base organisation ;

(d) inter-field responsibilities and communications

(e) scheme for risk analysis, system for implementation and follow up of results ;

(f) helicopter abandonment procedures in the event of a ditch or capsize, including ditch preparation, stable flotation abandonment and capsize abandonment procedures ;

(g) personnel documentation procedures at the shore base ; and

(h) arrangements for protecting persons on the installations from hazards of explosion, fire, heat, smoke, toxic gas and fumes during a period of emergency.

30. A manager shall ensure that safe access is —

Safe access

(a) provided on all midstream and downstream petroleum operations, with non-slip walkways and handrails leading over complex pipe systems, drains in the area of general access which shall be covered and other obstructions ; and

(b) kept free of obstructions.

31. A manager shall ensure that —

Restricted areas

(a) midstream and downstream petroleum operations have restricted areas and their boundaries clearly defined and secured ;

(b) a person would not be admitted into a restricted area unless authorised to do so by a competent person ;

(c) a notice be prominently displayed at the entrance of a restricted area giving details of the nature of the restrictions ; and

(d) effective measures are put in place to prevent and detect unauthorised access to the restricted areas.

32. A copy of these Regulations shall be prominently displayed at all times at every location, facility or installation undertaking midstream and downstream petroleum operations.

Display of these Regulations

PART IV — DUTIES OF PERSONNEL

33. A competent person appointed under these Regulations shall ensure that the provisions of this Part are fully complied with.

Competent person to ensure compliance.

34. A person under the age of 18 years shall not be engaged to work at a dangerous area.

Exclusion of children.

35. A person shall not accumulate or permit the accumulation of flammable or combustible materials at any bulk storage facility, processing plant, waste recycling plant, transportation or distribution infrastructure or any other installation handling petroleum and its derivatives without the approval of the Authority.

Prohibition of accumulation of flammable materials

B 792

Use of PPE,
housekeeping

36.—(1) A person working in a facility where midstream and downstream petroleum operations are conducted, shall wear PPE that will provide adequate protection against credible hazards and is in accordance with industry best practice.

(2) A person working at a fixed workstation or other high-rise installation or at a height above six feet shall wear appropriate fall protection devices.

(3) Tools, machine parts or other loose material of any kind shall not be kept on the elevated platform of an installation, unless it is required for immediate use, in which case adequate precaution shall be taken to prevent injury to any person below.

Machinery
safeguards

37.—(1) A person shall not remove or render ineffective any safeguard while the machinery relating to it, is in operation.

(2) Where it is necessary to make an adjustment or a repair to a machinery, the machinery shall be shut down and not operated until the safeguard is replaced.

(3) Log out tag out (LOTO) system or an alternative effective protection system consistent with industry best practice shall be applied to prevent unsafe inspection or maintenance of machinery.

Electrical
apparatus

38.—(1) A person, other than a duly qualified person, shall not open or restore a flame proof or an explosion proof equipment.

(2) An adjustment to or a repair of any apparatus within the flame proof or explosion proof equipment shall not be carried out until all the live parts within it have been made dead and efficiently earthed.

(3) On completion of any necessary adjustment or repairs of the equipment, the person shall ensure it is restored such that the flame proof or explosion-proof characteristics have not been impaired by the opening and closing of the equipment.

Signalling
equipment

39. A person, other than a duly qualified person, shall not repair, adjust or maintain a signalling equipment, and on completion of any repair, adjustment or maintenance, the person shall ensure the intrinsic safety qualities of the electrical circuit have not in any way been impaired.

Sleeping or
drinking on
duty

40. A person at a midstream and downstream petroleum facility or location shall not—

(a) during the period on duty —

(i) sleep, or

(ii) consume alcoholic substance or hard drugs ;

(b) be admitted for duty while under the influence of alcoholic substance, narcotics or hard drugs; or

(c) be admitted without declaration of prescription medication, if any.

41. A person who is at any restricted area, within the context of these Regulations, shall not —

Prohibition of smoking in restricted areas

- (a) smoke ;
- (b) be in possession of prohibited items such as firearms, explosives, knives, or any other item the manager proscribes ;
- (c) use any naked light ;
- (d) make any fire, except in such places as may be set aside and notified by the manager for that purpose as being safe, for the prevention of fire outbreaks ; or
- (e) use any communication or digital device that is not certified as intrinsically safe.

42.—(1) A competent person shall be responsible for the observance of all safety measures at any facility or location where work is in progress and in particular, shall ensure that work does not—

Other safety measures

- (a) start before essential safety measures are in place, or
 - (b) continue if safety can no longer be assured.
- (2) A person who notices an unusual escape of—
- (a) petroleum liquids or gas from a pipeline or an installation, or
 - (b) anything unsafe or likely to cause damage,

shall immediately inform the manager or competent person of the escape.

PART V — DIVING OPERATIONS: RESPONSIBILITIES AND REQUIREMENTS

43. A manager shall—

Diving operations

(a) safely handle all diving operations and related activities, to ensure that, as far as is reasonably practicable, the activities are carried out in accordance with all relevant local legislation, codes, standards and other international safe diving practices ;

(b) ensure that —

(i) there is in writing, clear and concise responsibilities, guidelines and directives for all personnel supervising or engaged in diving operation,

(ii) diving procedure manuals, emergency and contingency guidelines kept on site and readily available to an inspector of the Authority on demand,

(iii) a diving contractor who is retained on a long-term basis, is evaluated every six months, to ensure that performance is in accordance with approved standards,

(iv) the equipment deployed to the operations remain in perfect conditions,

(v) where a diving operation is to be carried out during the hours of darkness, such plant and equipment as may be necessary to illuminate

adequately the place from which the diving is being carried out shall be provided, except where the nature of the diving operation renders the illumination undesirable,

(vi) each gas cylinder used in a diving operation shall be clearly marked with the name and the chemical formula of its content, and its expiration date,

(vii) a person, other than an approved or a certified doctor who has been trained in hyperbaric and diving medicine, shall not issue a certificate of medical fitness to a diver before being engaged in a diving operation,

(viii) the facility and equipment for diving operations shall be regularly examined, tested and maintained to ensure it can safely be used, and

(ix) examination of facility and equipment for diving operations shall be carried out by a competent person within six hours of a diving operation.

(c) require a diving contractor to supply breathing mixture of suitable content and temperature, and of adequate pressure and rate to sustain prolonged vigorous physical exertion at ambient pressure for the duration of any diving operation ; and

(d) comply with the Authority's guidelines and requirements for diving operations.

Diving
contractors

44.—(1) A person who is responsible for, has control over, or is engaged in any aspect of a diving operation shall ensure, so far as is reasonably practicable, that appropriate international diving regulations are complied with and in particular, shall —

(a) appoint a competent diving supervisor to be in immediate control of the diving operation on site, and notify the Authority within 24 hours ;

(b) issue guiding rules for regulating the conduct of all persons engaged in the diving operation ;

(c) provide diving operations logbook which is to be maintained and retained for at least two years after the date of the last entry ;

(d) ensure that all essential tools and facilities for safe operation are available and functional before the commencement of a diving operation ; and

(e) not permit the use of compressed natural air as the breathing mixture in any diving operation at a depth exceeding 50 metres.

(2) A contractor shall, so far as is reasonably practicable ensure that—

(a) emergency services are available especially in the case of a diving operation using saturation techniques or at a depth exceeding 50 metres, facilities for transferring the divers safely under suitable pressure and conditions to a place where treatment can be given safely under pressure ; and

(b) there are effective means of communication between the place at which the operation is being carried out or is to be carried out and the emergency services.

45.—(1) A diving supervisor shall have the discretion of deciding whether conditions are safe enough to commence or continue a diving operation. Diving supervisor

(2) Where the on-site diving supervisor decides to take part in the diving operation as a diver, he shall designate a qualified person to take charge of the diving operation.

46.—(1) A person shall not take part in a diving operation as a diver unless he has— Divers

(a) undertaken formal training to ensure that he is competent to use the plant equipment provided for the operation, and

(b) a valid certificate of medical fitness to dive issued by a doctor in Nigeria who has trained in hyperbaric and diving medicine, and who is accredited by the Authority.

47. Where a diving bell is being used, there shall be for every diving operation a stand-by diver who shall— Stand-by divers

(a) descend in the bell to the depth from which work is to be carried out and remain in the bell to monitor the diver or divers who leave it,

(b) be in immediate readiness to render assistance to them in an emergency, and

(c) in all other cases, be in immediate readiness to dive :

Provided that where there are two divers in the water at the same time who are near enough to be able to communicate with and to render assistance to each other in an emergency, each one of them may be regarded as the stand-by diver for the other.

48. An extra diver shall be on the surface to render assistance where there is —

(a) a special hazard and, in particular, where a diver is likely to be endangered by strong current ; or

(b) risk of a diver being trapped, or his equipment entangled.

PART VI— MISCELLANEOUS PROVISIONS

49. The Authority shall at any time enter and inspect any midstream and downstream facility or premises where it has reasonable grounds to suspect that a breach of these Regulations has been or is being committed. Power to access facilities

50.—(1) An application for a permit or authorisation under these Regulations shall be as prescribed by the Authority. Application and service charge

(2) An application made by an affiliate of a person who has applied for or holds any other licence, permit or authorisation from the Authority, shall disclose such affiliate relationship.

(3) The Authority shall prescribe appropriate service charge for the grant of such licence, permit or authorisation and the charges may be on volume or mass basis.

Accident,
investigation
and inquiries
into
accidents

51. Where an accident under these Regulations occurs, the Authority—

(a) shall conduct an investigation into the circumstances surrounding the accident ; and

(b) may order an inquiry on the conclusion of the investigation.

Summons

52.—(1) A person holding an inquiry under these Regulations shall, for the purpose of the inquiry, have the powers to —

(a) summon witnesses ;

(b) call for the provision of relevant books and documents ;

(c) examine witnesses and parties ; and

(d) call for an autopsy to be conducted to ascertain the cause of death in cases of suspicious circumstances.

(2) A summons shall be in the form prescribed by the Authority and shall be served by such other person as the Authority may direct.

Offences and
penalties

53.—(1) A licensee or permit holder who—

(a) fails to obtain a permit or authorisation required under these Regulations,

(b) fails to provide information required under these Regulations,

(c) makes a false declaration to the Authority or wilfully furnishes information so required which is in any respect false or insufficient, or

(d) fails to comply with any provisions of these regulations or any directives given or condition of any permit or authorisation issued under these regulations,

shall, in addition to the sanctions, fines and penalties contained in the Act, be liable to an administrative penalty not more than USD 250,000, and any permit or authorisation granted to that licensee or permit holder may be suspended or revoked.

(2) A manager who fails to comply or ensure compliance with these Regulations, makes a false declaration or willfully furnishes false or insufficient information is liable to an administrative penalty issued by the Authority of not more than ₦5,000,000.

Burden of
proof

54. Where under these Regulations a duty is imposed on a person, the *onus* of proving that all reasonable steps have been taken to fulfill that duty shall lie on the person charged with the breach of duty.

55. The Authority may issue guidelines, directives and notices for the effective implementation of these Regulations.

Guidelines,
directives
and notices

56. In these Regulations —

Interpretation

“*Act*” means Petroleum Industry Act, No. 6 2021 ;

“*ANSI*” means American National Standard Institute ;

“*API*” means American Petroleum Institute ;

“*ASME*” means the American Society of Mechanical Engineers ;

“*Authority*” means the Nigerian Midstream and Downstream Petroleum Regulatory Authority ;

“*company*” means a registered entity as defined in section 218 of the Act concerned with petroleum operations with a permit issued by the Authority ;

“*competent person*” means a person appointed by a licensee or permit holder under these Regulations and a competent person shall have sufficient training, knowledge and other qualities to manage specialised petroleum operations and have the power to take decisions with respect to his area of operations on behalf of the company ;

“*crude oil*” means the natural product of wells or seepages of petroleum oil before the oil is refined or otherwise treated ;

“*dangerous area*” means any —

(a) enclosed premises containing a dangerous location together with a space extending not less than 15 metres measured along the shortest part in air of flammable gases or vapour from any point of escape of those gases from the premises, or

(b) open premises containing one or more dangerous locations together with a space extending not less than 15 metres in all directions from every such dangerous location ;

“*dangerous atmosphere*” means an atmosphere containing any flammable gas or vapour in a concentration capable of ignition by an open flame or electric spark ;

“*dangerous location*” means a location where a leakage or emission, of a product which can produce a dangerous atmosphere, is likely to occur ;

“*dba*” means decibels A ;

“*DNV*” means Det Norske Veritas ;

“*gas*” or “*natural gas*” means gas consisting of hydrocarbons ;

“*HSE*” means Health Safety and Environment ;

“*hydrocarbon*” means crude oil, natural gas, petroleum products ;

“*Integrity Operating Windows*” means the limits under which a machine can operate safely ;

“*LEL*” means Lower Explosive Limit ;

“*mSv*” means milliSievert ;

“*manager*” means the person or entity appointed by the company to be in charge of all operations approved by the Authority under these Regulations ;

“*NACE*” means the National Association of Corrosion Engineers ;

“*NNRA*” means the Nigeria Nuclear Regulatory Authority ;

“*petroleum operations*” means any facility that handles or processes hydrocarbons (including retail outlets) ;

“*pressure vessel*” means a closed vessel of any capacity subjected or which may be subjected to an internal pressure above atmospheric ;

“*recommended test pressure*” means pressure which is not less than one and half times the maximum allowable working pressure ;

“*restricted area*” in a petroleum operation means an area in which access control and other precautions are necessary to ensure safety by reason of the possible presence of dangerous atmosphere or because of the operations being carried out in it ;

“*serious injury*” means—

(a) a fractured skull, pelvis, thigh, spine, arm, forearm or leg,

(b) a dislocated shoulder, hip, knee or spine,

(c) the amputation of an arm or hand, or of one finger or more on the same hand, or of a leg or a foot,

(d) the loss of the sight of an eye or chemical or hot metal burn to the eye or any penetrating injury to the eye,

(e) any other serious bodily injury including internal hemorrhage, burns and asphyxia, where the injury is likely to endanger life, cause permanent incapacity or substantially impair efficiency, or

(f) any other injury of similar magnitude or as may be specified by the Authority ;

“*safety case*” means the justification provided by a licensee or permit holder that a facility or installation will be operated safely and all residual risks will be brought to ALARP ; and

“*safety clearance*” means a clean bill certification issued to a licensee or permit holder who has met all health, safety and environmental standards as determined by the Authority, prior to issuance of licences, permits and authorisations or renewal of same ;

“*technical safety studies*” means studies such as HAZOP, SAFOP, HAZID, Human Factor Engineering, SIL studies, Bowtie, PSSR, RAMS and design review used to establish the safety of a facility ;

“*TWA*” means Time Weighted Average ; and

“*unrestricted area*” in a petroleum operation means an area which is free from hydrocarbon vapours in dangerous or hazardous quantities and in which it is safe to accommodate boilers, open fires or flames, workshop, service buildings or other similar structures ;

57. These Regulations, may be cited as the Midstream and Downstream Petroleum Safety Regulations, 2023. Citation

MADE at Abuja this 10th day of May, 2023.

ENGR. FAROUK AHMED
Authority Chief Executive
Nigerian Midstream and Downstream
Petroleum Regulatory Commission