

## OCCUPATIONAL SAFETY AND HEALTH ACT (No. 15 of 2007)

IN EXERCISE of the powers conferred by section 127 of the Occupational Safety and Health Act No. 15 of 2007, the Cabinet Secretary makes the following Regulations—

### OCCUPATIONAL SAFETY AND HEALTH (OIL AND GAS) REGULATIONS 2019

#### ARRANGEMENT OF REGULATIONS

##### PART I – PRELIMINARY

1.	<b>Citation</b> .....	6
2.	<b>Interpretation</b> .....	6
3.	<b>Application</b> .....	11

##### PART II – GOVERNANCE STRUCTURE

4.	<b>Establishment of Petroleum Safety and Health Committee</b> .....	11
5.	<b>Composition of the Petroleum Safety and Health Committee</b> .....	11
6.	<b>Functions of the Petroleum Safety and Health Committee</b> .....	12
7.	<b>Risk Based Principles</b> .....	12
8.	<b>Roles and Responsibilities an Occupier</b> .....	13
9.	<b>Safety Case</b> .....	14
10.	<b>Contents of Safety Case</b> .....	14
11.	<b>Request for more information</b> .....	14
12.	<b>Evaluation by Committee</b> .....	15
13.	<b>Notice of decision</b> .....	15
14.	<b>Compliance with safety case</b> .....	16
15.	<b>Review of safety case</b> .....	16
16.	<b>Revision of safety case</b> .....	16
17.	<b>Revision on request of the Director</b> .....	17
18.	<b>Notice of decision for a revised safety case</b> .....	18
19.	<b>Effect of rejection of revised safety case</b> .....	19
20.	<b>Storage of safety case</b> .....	19

##### PART III – OCCUPIER RISK-BASED APPROACH TOWARDS MAJOR INCIDENTS IN OIL AND GAS FACILITIES

21.	<b>Risk Management System</b> .....	19
22.	<b>Risk Register</b> .....	20
23.	<b>Major Incident Prevention</b> .....	20
24.	<b>Inherent Safety in Design</b> .....	20
25.	<b>Design Qualitative and Quantitative Risk Assessments</b> .....	21
26.	<b>Risk Acceptance Criteria</b> .....	22
27.	<b>Process Hazard Analysis and Operability Study</b> .....	22

28.	<b>Modelling Effects and Blast Zones</b> .....	22
29.	<b>Barriers to eliminate, reduce risks or prevent escalation</b> .....	23
30.	<b>Material strength, safe operating envelope and operating limits</b> .....	24
31.	<b>Spacing and configuration of operating plant</b> .....	25
32.	<b>Management of safety critical elements</b> .....	25
33.	<b>Detection systems</b> .....	25
34.	<b>Passive and active fire protection</b> .....	26
35.	<b>Monitoring and inspection requirements for risk controls and barriers</b> .....	26
36.	<b>Provision for emergency shutdown systems</b> .....	27
37.	<b>Safe containment of hydrocarbons</b> .....	27
38.	<b>Provision for temporary refuges, evacuation routes, lifesaving equipment and process emergency controls</b> .....	28
39.	<b>Management of process change</b> .....	28
40.	<b>Hazard Identification of external threat and effects</b> .....	29
41.	<b>Identification of extreme environment condition</b> .....	29
42.	<b>Proximity to industrial site with major incident potential</b> .....	30
43.	<b>Consideration of third party traffic</b> .....	30
44.	<b>Consideration of external third parties with access to occupier site</b> .....	30
45.	<b>Identification of external vulnerabilities and spacing with external asset</b> .....	31
46.	<b>Baseline for public information</b> .....	31
47.	<b>Occupational safety and health management system</b> .....	31
48.	<b>Zoning and hazard Area Classification</b> .....	31
49.	<b>Start up and shut down procedures</b> .....	32
50.	<b>Operating in downgraded situation</b> .....	32
51.	<b>Procedure for bypassing emergency shut down and safety critical elements</b> .....	33
52.	<b>Equipment certification</b> .....	33
53.	<b>Truck tanker safety requirements</b> .....	34
54.	<b>Maintenance of a risk awareness culture</b> .....	35
<b>PART IV: OCCUPIER'S SAFETY AND HEALTH MANAGEMENT</b>		
55.	<b>Safety and Health Policy</b> .....	36
56.	<b>Occupier to establish occupation safety and health objectives</b> .....	36
57.	<b>Occupier to establish programme to achieve its objectives</b> .....	37
58.	<b>Management at a facility</b> .....	37
59.	<b>Competencies of employees</b> .....	38
60.	<b>Establishment of occupational safety and health management system</b> .....	38

61.	<b>Documentation of occupational safety and health management system</b> .....	39
62.	<b>Standard operating procedures</b> .....	40
63.	<b>Maintenance and asset integrity management documentation</b> .....	41
64.	<b>Inspection procedure, program, and corrosion prevention plan</b> .....	41
65.	<b>Management of change procedure</b> .....	42
66.	<b>Sub-contractor management</b> .....	43
67.	<b>Permit-to-Work System</b> .....	44
68.	<b>Safe Isolation, Lock-Out and Tag-Out Systems</b> .....	45
69.	<b>Radioactivity</b> .....	46
70.	<b>Supervision</b> .....	47
71.	<b>Safe transportation of employees</b> .....	47
72.	<b>Accommodation</b> .....	48
73.	<b>Recording of occupational safety and health events at facility</b> .....	48
74.	<b>Occupational safety and health induction</b> .....	49
75.	<b>Handover system</b> .....	50
76.	<b>Task briefing</b> .....	50
77.	<b>Behaviour based safety program</b> .....	51
78.	<b>Occupational safety and health indicators key performance indicators and occupational safety and health indicators management review</b> .....	51
	<b>PART V: OCCUPATIONAL SAFETY AND HEALTH REPORTING SYSTEM</b>	
79.	<b>Expansion of definition of dangerous occurrences</b> .....	52
80.	<b>Formal investigation</b> .....	52
81.	<b>Lessons learnt report</b> .....	53
	<b>PART VI: EMERGENCY PREPAREDNESS</b>	
82.	<b>Principles of emergency preparedness and emergency response</b> .....	54
83.	<b>Classification of level of emergency</b> .....	55
84.	<b>Emergency documentation</b> .....	56
85.	<b>Provision for Medical care and response</b> .....	57
86.	<b>Occupier organization for preparing and responding to emergency scenario</b> .....	57
87.	<b>Crisis management cells</b> .....	58
88.	<b>Confinement, or evacuation of personnel, abandonment and search &amp; rescue of personnel</b> .....	59
89.	<b>Emergency alarm and communications</b> .....	60
90.	<b>Dimensioning emergency means and resources</b> .....	60
91.	<b>Occupiers mutual assistance and emergency coordination</b> .....	61
92.	<b>Testing emergency response and frequency</b> .....	62

93.	<b>Emergency response priorities</b> .....	62
94.	<b>Primacy of emergency management</b> .....	63
95.	<b>Completion of emergency situation</b> .....	63
96.	<b>Decommissioning of facility</b> .....	64
<b>PART VII: UPSTREAM PETROLEUM OPERATIONS</b>		
97.	<b>Application to upstream petroleum operations</b> .....	64
98.	<b>Compliance with Explosives Act</b> .....	64
99.	<b>Use of explosives and bunker management for geophysics surveys</b> .....	64
100.	<b>Register of Explosives</b> .....	65
101.	<b>Shooting activities</b> .....	65
102.	<b>Seismic vibrators safety distances</b> .....	66
103.	<b>Drilling program</b> .....	66
104.	<b>Blowout Contingency Plan and well control</b> .....	67
105.	<b>Specification of well head and blowout preventer</b> .....	68
106.	<b>Drilling rig pre-spud review</b> .....	69
107.	<b>Wells activities</b> .....	69
<b>PART VIII - MIDSTREAM PETROLEUM OPERATIONS</b>		
108.	<b>Application to midstream petroleum operations</b> .....	70
109.	<b>Pipeline and pipework</b> .....	70
110.	<b>Safe Storage of Hydrocarbons</b> .....	70
111.	<b>Provision for simultaneous operations conducted between production pipelines and refinery</b> .....	72
<b>PART IX -DOWNSTREAM PETROLEUM OPERATIONS</b>		
112.	<b>Application to downstream petroleum operations</b> .....	72
113.	<b>Installation, use and maintenance of liquefied petroleum in domestic / commercial and industrial sites.</b> .....	73
114.	<b>Workplace orientated customer place in petroleum service station (PSS)</b> ....	73
<b>PART X - OFFENCES</b>		
115.	<b>General Prohibition and Offence</b> .....	74
	<b>FIRST SCHEDULE</b> .....	75
	<b>PROVISIONS RELATING TO THE CONDUCT OF BUSINESS AND AFFAIRS OF THE COMMITTEE</b> .....	75
	<b>SECOND SCHEDULE</b> .....	76
	<b>CONTENTS OF THE SAFETY CASE</b> .....	76
	<b>THIRD SCHEDULE</b> .....	77
	<b>CRITERIA FOR DESIGN OF FACILITIES, INSTALLATIONS, SYSTEMS AND EQUIPMENT</b> .....	77

<b>FOURTH SCHEDULE .....</b>	<b>77</b>
<b>RISK ACCEPTANCE CRITERIA.....</b>	<b>77</b>
<b>FIFTH SCHEDULE.....</b>	<b>79</b>
<b>REQUIREMENTS FOR MODELLING EFFECTS AND BLAST ZONES.....</b>	<b>79</b>
<b>SIXTH SCHEDULE .....</b>	<b>79</b>
<b>CLASSIFICATION OF EXPLOSIVE ATMOSPHERE .....</b>	<b>80</b>
<b>SEVENTH SCHEDULE – KEY PERFORMANCE INDICATOR .....</b>	<b>80</b>
<b>EIGHTH SCHEDULE – INCIDENT REPORT .....</b>	<b>82</b>
<b>NINTH SCHEDULE – EQUIPMENT REGISTER .....</b>	<b>86</b>

	<b>PART I – PRELIMINARY</b>	
1.	(1) These Regulations may be cited as Occupational Safety and Health (Oil and Gas) Regulations 2019.	<b>Citation</b>
2.	<p>In these Regulations, unless the context otherwise requires-</p> <p>“Act” means the Occupational Safety and Health Act, No. 15 of 2007;</p> <p>“active fire protection” means equipment, systems and methods including sprinklers, deluge or mist systems, monitors and extinguishers which following initiation, may be used to control, mitigate and extinguish fires;</p> <p>“asset integrity” means the ability of an asset to perform its intended function effectively and efficiently whilst protecting the safety and health of persons and the environment.</p> <p>“authorisation” means the formal and written recognition by an employer of the ability of an employee to perform a specific hazardous work safely having regard to the employee’s knowledge of the risks and the measures to be taken if an incident occurs;</p> <p>“Authority” means the Energy and Petroleum Regulatory Authority established under section 9 of the Energy Act, 2019;</p> <p>“blowout” means an incident where formation fluid flows out of the well in an uncontrolled way after some or all of the well’s control barriers have failed;</p> <p>“blowout preventer” means equipment or valve installed at the wellhead to contain wellbore pressure either in the annular space between the casing and the tubulars or in an open hole during drilling, completion, testing or workover operations;</p> <p>“Committee” means the Petroleum Safety and Health Committee established under regulation 4;</p> <p>“contractor” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p> <p>“controls and barriers” means all measures implemented and found effective to reduce the risk level from an initial risk level to a residual risk level reaching as low as reasonably practicable level;</p> <p>“Council of Governors” means the council established under section 19 of the Intergovernmental Relations Act, No. 2 of 2012;</p>	<b>Interpretation</b>

	<p>“decommissioning” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p> <p>“design specification” means specifications set at the design stage of a facility to ensure safe operations of the process unit;</p> <p>“detection system” means a system capable of detecting a fire, thermal grade or ultraviolet or infrared emissions, a specific gas, flammable or toxic or smoke and is capable of sending a report or alert or to automatically activate a fire protection system;</p> <p>“Disaster Preparedness, Prevention and Management Unit” means the body established pursuant to section 69 of the Petroleum Act, 2019;</p> <p>“domino effect” means a series of events which may lead to an injury or some other loss causing another succession of similar events, and may possibly lead to a major incident scenario;</p> <p>“downgraded situation” means an a deviation from the optimal operating conditions of a process unit which may alter the operating conditions within the safe operating envelope;</p> <p>“downstream petroleum operations” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p> <p>“explosives” has the meaning assigned to it in section 2 of the Explosives Act;</p> <p>“explosive atmosphere” means a mixture of dangerous substances with air, under atmospheric conditions, in the form of gases, vapours, mist or dust in which, after ignition has occurred, combustion spreads to the entire unburned mixture;</p> <p>“facility” means any workplace, structure, device, roads, or other associated installations or infrastructure including pipelines, rail stations, pump stations, compressor stations and equipment constructed or other associated installations, vessel, vehicle or craft in which petroleum operations are carried out;</p> <p>“fatality” means a work-related injury or illness that results in death;</p> <p>“firefighting systems” means all systems used in firefighting such as fire-fighting media, mains, pump, energy sources and hoses, starting from firefighting preparation, to systems to be used in the event of a fire to extinguish it or prevent escalation of the fire to its surroundings;</p> <p>“hazard” means the potential to cause harm, including ill health and injury, damage to property, plant, products or the environment, production losses or increased liabilities;</p>	
--	--	--

	<p>“hazardous concentration” means the amount of toxic airborne concentration from hazardous substances, which when inhaled results in health disorders in a period of time which does not exceed one hour, reversible or irreversible but does not result in the death of persons;</p> <p>“hazard and operability study” means a study carried out by the application of guide words to identify all deviations from design intent which have undesirable effects on safety or operability, with the aim of identifying potential hazards;</p> <p>“high potential incident” means an incident or near-miss that, realistically, could have under other circumstances caused one or more fatalities;</p> <p>“incident” means an event or chain of events which has caused or could have caused injury, illness and/or damage to assets, the environment or third parties;</p> <p>“initial risk level” means the level of risk before mitigations are put in place;</p> <p>“isolation” means the separation of plant and equipment from every source of energy in such a way that the separation is secure and work can be safely performed at the isolated plant and equipment ;</p> <p>“Kenya Standard” means a specification or code of practice declared as such by the National Standards Council under the Standards Act.</p> <p>“lethal concentration” means the amount of toxic airborne concentration from hazardous substances, which when inhaled causes an acute intoxication in a period of time which does not exceed one hour causing the death of one or more persons;</p> <p>“licence” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p> <p>“loss of containment” means an unplanned or uncontrolled release of any hazardous substance from its storage unit or from the process or equipment where it is circulating into, regardless of whether it is of a liquid, solid or gaseous nature;</p> <p>“lost time injury” means any work related injury or illness which prevents that person from doing any work the day after the occurrence of the injury ;</p> <p>“maintenance strategy” means a plan to maintain safe plant and equipment, according to the maintenance methods that apply to the type of plant and equipment;</p> <p>“management of change” means a formal and documented system to ensure all changes that might impact operations are identified, assessed and controlled;</p>	
--	---	--



	<p>“midstream petroleum operations” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p> <p>“National Disaster Operation Centre” means the body established under the Ministry of Interior and Coordination of National Government for the purpose of coordinating disaster management in Kenya;</p> <p>“near miss” means any unplanned event having the potential to cause injury, illness or damage to property, the environment, the occupier’s reputation or financial performance;</p> <p>“operating envelope” means conducting operations within a limited range of parameters given the design, the equipment condition, the materials used and product involved;</p> <p>“occupational injury” means any personal injury or death resulting from an occupational incident;</p> <p>“passive fire protection” means coating or cladding arrangement or free standing systems such as fire walls, compartmentalization in structures, building and process modules, fire divisions which in the event of fire will provide thermal protection to restrict the rate at which heat is transmitted to the object or area being protected;</p> <p>“permit” has the meaning assigned to it in section 2 of the Petroleum Act, 2019; “permit to work” has the meaning assigned to it in section 96 of the Occupation Health and Safety Act, 2007;</p> <p>“personnel on board” means persons at a facility at any given time;</p> <p>“petroleum” has the meaning assigned to in section 2 of the Energy Act, 2019;</p> <p>“petroleum operations” means downstream petroleum operations, midstream petroleum operations and upstream petroleum operations;</p> <p>“process hazard analysis” means an organized and systematic assessment of potential hazards related to a process unit;</p> <p>“process unit” means one or a batch of equipment connected to each other, used in petroleum installations to treat crude oil and/or transform crude oil into other useful products such as liquefied petroleum gas or other types of gas, gasoline, petrol, kerosene, fuel and diesel oil;</p> <p>“qualitative to quantitative risk assessment” means the quantification of risk from a qualitative to an accurate assessment;</p> <p>“residual risk level” means the risk that remains after control and barriers are put into place;</p>	
--	---	--

	<p>“risk acceptance criteria” means the criteria used to determine whether a risk level is acceptable or unacceptable for the purpose of undertaking a certain activity;</p> <p>“risk assessment” means a systematic examination conducted to determine and evaluate the degree of risk involved in terms of severity, frequency and cost of the potential loss or damage in the case of occurrence of the risk;</p> <p>“risk management” means the process(es) by which hazards and risk scenario are identified, assessed, evaluated in order to take actions and mitigation measures to achieve, maintain or improve the safety of an installation and its operation;</p> <p>“risk register” means an inventory of all risk assessments related to a specific facility and petroleum operation;</p> <p>“safety case” means the document known as a safety case which is submitted to the Director pursuant to the provisions of Part 2 of these Regulations;</p> <p>“safety critical element” means parts of a facility, including computer programs, whose purpose is to prevent or limit the consequences of major incidents the failure of which may result in a major incident or contribute substantially to a major incident;</p> <p>“safe operating envelope” means the limited range of parameters in which operations will result in safe and acceptable equipment performance;</p> <p>“Simultaneous operations” means operations performed on or in the vicinity of an oil and gas facility in which the extraction, treatment, injection, storage or transport of petroleum is carried out, and which create major risks entailed by the simultaneity of these activities;</p> <p>“standard operating procedure” means a step-by-step procedure or instruction, related to normal day to day operations under normal conditions;</p> <p>“stop work authority” means the right and the duty of an employee at any level to stop his activity or another employee’s activity where there is an obvious hazardous situation that is likely to cause harm to persons or expose them to occupational health hazards;</p> <p>“subcontractor” means a person who is hired by an occupier to undertake a portion of an existing contract that is being performed by the occupier ;</p> <p>“upstream petroleum operations” has the meaning assigned to it in section 2 of the Petroleum Act, 2019;</p>	
--	---	--

	<p>“well control” means the technique and equipment used to prevent and control wellbore and formation fluids from escaping into the environment or cross-flowing downhole.</p>	
3.	<p>These Regulations shall apply to all:</p> <p>a) facilities; and</p> <p>b) occupiers involved in petroleum operations undertaken in Kenya.</p>	<b>Application</b>
	<p><b>PART II – GOVERNANCE STRUCTURE</b></p>	
4.	<p>(1) There is established a committee known as the Petroleum Safety and Health Committee.</p>	<b>Establishment of Petroleum Safety and Health Committee</b>
5.	<p>(1) The Committee shall consist of persons possessing technical knowledge and expertise in matters relating to occupational safety and health in petroleum operations and appointed by and from the following Ministries and institutions;-</p> <p>a) Directorate of Occupational Safety and Health;</p> <p>b) the Ministry responsible for petroleum;</p> <p>c) the Ministry of Health;</p> <p>d) the Energy and Petroleum Regulatory Authority;</p> <p>the National Environment Management Authority</p> <p>e) Kenya Bureau of Standards ;</p> <p>f) Kenya Maritime Authority ;</p> <p>g) Kenya Ports Authority;</p> <p>h) the National Disaster Operation Centre;</p> <p>i) the Office of the Attorney-General ;</p> <p>j) the Council of Governors; and</p> <p>(2) The Committee shall be chaired by the representative appointed from and by the Directorate of Occupational Safety and Health.</p> <p>(3) The Director shall appoint a secretary from the members of the Committee.</p> <p>(4) The Committee may co-opt into the Committee such other experts as they deem necessary but in</p>	<b>Composition of the Petroleum Safety and Health Committee</b>

	<p>any case not more than four members shall be co-opted.</p> <p>(5) The Committee shall, in co-opting the experts to sit in the Committee, ensure that the experts co-opted have the necessary knowledge, expertise and experience in the matters under consideration by the Committee.</p> <p>(6) The conduct and regulation of the business and affairs of the Committee shall be as provided in the First Schedule but subject thereto, the Committee shall regulate its own procedure.</p>	
6.	<p>(1) The functions of the Committee shall be to:</p> <p>a) coordinate the respective agencies represented in the Committee in execution of their mandates in so far as matters relating to occupational safety and health in petroleum operations arise;</p> <p>b) generally advise the Director on occupational, safety and health matters in petroleum operations; and</p> <p>c) review a safety case pursuant to the provisions of regulation 12 and recommend to the Director on the suitability or otherwise of the safety case to ensure occupational safety and health of persons at a facility.</p>	<p><b>Functions of the Petroleum Safety and Health Committee</b></p>
7.	<p>(1) Every occupier shall adopt policies and strategies over the whole lifecycle of its operations to ensure:</p> <p>a) hazards are eliminated as much as possible and where this is not possible, reduced to as low as reasonably practicable level;</p> <p>b) efficient identification and assessment of risks related to the lifecycle of petroleum operations;</p> <p>c) efficient identification and assessment of risks related to external factors such as environmental conditions and third parties;</p> <p>d) clear understanding of major incident scenarios that could threaten the safety and health of personnel, facilities, and third parties;</p> <p>e) adoption of the best technical, operational and organisational practices and solutions that have the greatest risk-reducing effect;</p> <p>f) risks are reduced by reducing risks consequences, or by reducing the likelihood of occurrence of an incident;</p>	<p><b>Risk Based Principles</b></p>

	<ul style="list-style-type: none"> <li>g) that incidents are investigated and lessons learnt from the incidents are taking into account when undertaking risk assessments and implementing safety measures;</li> <li>h) appropriate controls and barriers are identified, implemented and maintained to prevent the risk scenarios identified; and</li> <li>i) adequate recovery measures are put in place should an incident arise.</li> </ul> <p>(2) Every occupier shall demonstrate that its decision making process is established based on the findings of the risk assessments undertaken to ensure that:</p> <ul style="list-style-type: none"> <li>a) issues related to occupational safety and health have been comprehensively and adequately considered; and</li> <li>b) risk management strategies properly rely upon the most critical event scenario (based on realistic severity and realistic likelihood of occurrence) as to identify reliable mitigations measures.</li> </ul> <p>(3) Every occupier shall implement and maintain risk management strategies that ensure that the risk level after the implementation of mitigation measures remain at an acceptable level, according to the risk matrix set out in the Fourth Schedule.</p> <p>(4) Every occupier's risk management system shall prohibit operations when the risk level is high.</p> <p>(5) The occupier's risk assessment and risk management system shall be submitted to the Director.</p>	
8.	<p>(1) Without prejudice to the occupier's duties under the Act, the occupier shall:</p> <ul style="list-style-type: none"> <li>a) adopt decision making processes that are in line with the risk-based approach;</li> <li>b) develop and implement an occupational safety and health management system in line with the requirements set out below;</li> <li>c) ensure compliance with reporting requirements and processes; and</li> <li>d) anticipate emergency response needs, set provisions for emergency recovery and maintain preparedness to a high level.</li> </ul>	<p><b>Roles and Responsibilities an Occupier</b></p>

	(2) Every occupier shall have an in-country competent person to deal with risk assessment and risk management processes and who can demonstrate that the occupier is compliant with its occupational safety and health management system.	
9.	<p>(1) The occupier of a facility shall prepare a safety case in respect of the facility and submit it to the Director for approval.</p> <p>(2) The safety case submitted under sub-regulation (1) above shall be accompanied by the prescribed fee set by the Director.</p> <p>(3) The Director shall not issue the occupier with a certificate of registration of workplace prior to the submission and approval of the occupier's safety case.</p> <p>(4) The safety case shall be submitted to the Director:</p> <p>(a) in the case of an occupier who has already commenced petroleum operations, within two (2) years of commencement of these Regulations.</p> <p>(b) in the case of an occupier who is yet to commence petroleum operations, prior to commencement of petroleum operations.</p>	<b>Safety Case</b>
10.	Every occupier shall ensure that the safety case it submits to the Director contains the matters set out in the Second Schedule.	<b>Contents of Safety Case</b>
11.	<p>(1) The Director may, within thirty days of receipt of the safety case, require the occupier to provide additional written information about any matter required by these Regulations to be included in a safety case or any other matter that the Director on his own or on the recommendation of the Committee deems fit.</p> <p>(2) A request under sub-regulation (1) shall:</p> <p>a) be in writing;</p> <p>b) set out each matter for which information is requested; and</p> <p>c) specify a period of at least forty-five days within which the information is to be provided.</p> <p>(3) If the occupier receives a request, and provides all information requested by the Director within the period specified:</p>	<b>Request for more information</b>

	<p>(a) the information becomes part of the safety case as if it had been included with the safety case when it was first submitted to the Director; and</p> <p>(b) the Director and the Committee shall have regard to the information as if it had been so included.</p>	
12.	<p>(1) The Director shall in consultation with the Committee assess and evaluate safety cases submitted to him.</p> <p>(2) The Committee shall make a recommendation to the Director on the suitability and appropriateness of a safety case to ensure occupational safety and health of persons at a facility.</p> <p>(3) The Director shall consider the recommendation of the Committee under sub-regulation (2) prior to making a determination on the safety case.</p>	<b>Evaluation by Committee</b>
13.	<p>(1) The Director shall:</p> <p>(a) within sixty days after the date on which he receives the safety case; or</p> <p>(b) if the Director requests additional information under sub-regulation 11(2), within sixty days after the date of receipt by the Director of such information.</p> <p>notify the occupier, in writing, that he has made a determination with respect to the safety case.</p> <p>(2) The Director may decide to:</p> <p>(a) accept the safety case;</p> <p>(b) reject the safety case; or</p> <p>(c) do both of the following:</p> <p>(i) accept the safety case for one or more specified stages in the life of the facility, but not for every stage in the life of the facility, in respect of which the safety case was submitted;</p> <p>(ii) reject the rest of the safety case; or</p> <p>(d) accept the safety case subject to conditions or limitations.</p> <p>(3) A notice of a decision under sub-regulation (1) shall include the terms of the decision including any limitations or conditions and the reasons thereof.</p> <p>(4) The Director shall forward his decision on the safety case to the Authority and the Authority shall consider the Director's decision prior to issuing the occupier with the relevant permit or licence.</p>	<b>Notice of decision</b>

14.	<p>(1) No person shall commence petroleum operations until the safety case required under regulation 9 has been accepted by the Director.</p> <p>(2) Subject to regulation 9(2)(a) an occupier who has already commenced operations shall not continue such operations if the safety case submitted by the occupier is rejected by the Director.</p> <p>(3) Following the acceptance of a safety case by the Director the occupier shall ensure that the procedures and arrangements described in the safety case are followed in practice at the facility subject to any conditions issued by the Director.</p> <p>(4) An occupier whose safety case has been rejected by the Director under regulation 13 may amend and resubmit the safety case to the Director for assessment and evaluation.</p>	<b>Compliance with safety case</b>
15.	<p>(1) The occupier shall thoroughly review a current safety case:</p> <p style="padding-left: 40px;">a) no more than five years after the date on which the safety case was first accepted by the Director under regulation 13; and</p> <p style="padding-left: 40px;">b) at suitable intervals not exceeding five years following the first review.</p> <p>(2) In addition to the thorough review under sub-regulation (1) the occupier shall review the current safety case if directed to do so by the Director.</p> <p>(3) The occupier shall send a summary, including results, of each such review to the Director:</p> <p style="padding-left: 40px;">(a) where the review is conducted at the direction of the Director, within the period specified by the Director; or</p> <p style="padding-left: 40px;">(b) in all other cases, within thirty days of the conclusion of the review.</p>	<b>Review of safety case</b>
16.	<p>(1) In addition to the other instances in which the occupier shall revise an existing safety case pursuant to these Regulations, the occupier shall revise its existing current safety case—</p> <p style="padding-left: 40px;">a) when appropriate; and</p> <p style="padding-left: 40px;">b) when directed to do so by the Director pursuant to regulation 17.</p> <p>(2) For the purposes of sub-regulation (1), it is to be regarded as appropriate to revise a safety case in respect of a material change to a facility.</p>	<b>Revision of safety case</b>



	<p>(3) Notwithstanding the provisions of these Regulations, the occupier of a facility for which a safety case is in force shall submit a revised safety case to the Director as soon as practicable after the occurrence of any of the following circumstances:</p> <p>(a) the technical knowledge relied upon to formulate the safety case, including the knowledge of systems for identifying hazards and evaluating risks of major incident events, is outdated so that the safety case no longer adequately provides for the matters mentioned in the Second Schedule;</p> <p>(b) the occupier proposes to modify or decommission the facility, and the proposed modification or decommissioning is not adequately addressed in the safety case;</p> <p>(c) there are reasonable grounds for believing that a series of proposed modifications to the facility would result in a significant cumulative change in the overall level of risk of major incident events;</p> <p>(d) the occupier proposes to significantly change its occupational safety and health management system;</p> <p>(e) where the facility is a pipeline, the compositions of substance conveyed in the pipeline are different from the compositions contemplated in the safety case;</p> <p>(f) the activities to be carried out at the facility are different from the activities contemplated in the safety case.</p> <p>(4) The occupier shall also submit a revised safety case to the Director as soon as practicable if there has been:</p> <p>(a) a significant increase in the level of risk to the health or safety of persons at or near the facility; or</p> <p>(b) a series of increases in the level of risk to the health or safety of persons at or near the facility that are, in total, significant.</p>	
17.	<p>(1) The Director may request the occupier of a facility for which a safety case is in force to submit a revised safety case to him.</p> <p>(2) If the Director agrees, the occupier of a facility may submit a revised safety case under sub-regulation (1) in the form of a revision to part of the safety case in force for the facility.</p>	<p><b>Revision on request of the Director</b></p>

	<p>(3) A request by the Director under sub-regulation (1) shall be in writing and shall include:</p> <ul style="list-style-type: none"> <li>a) the matters to be addressed by the revision;</li> <li>b) the date by which the revision is required to be submitted to the Director;</li> <li>c) the grounds for the request.</li> </ul> <p>(4) The occupier may make a submission in writing to the Director requesting a variation or withdrawal of the request and stating the reasons why:</p> <ul style="list-style-type: none"> <li>a) the revision should not be undertaken;</li> <li>b) the revision should be in different terms from the terms proposed; or</li> <li>c) the revision should take effect on a date after the date proposed.</li> </ul> <p>(5) The occupier must make the submission:</p> <ul style="list-style-type: none"> <li>a) within twenty one days after receiving the request; or</li> <li>b) within a longer period as may be allowed in writing by the Director.</li> </ul> <p>(6) If the Director receives a submission that complies with sub-regulations (4) and (5), the Director shall:</p> <ul style="list-style-type: none"> <li>a) decide whether to accept the submission or part of the submission;</li> <li>b) give the occupier written notice of the decision; and</li> <li>c) to the extent that the submission is accepted, give the occupier written notice that varies or withdraws the request in accordance with the decision; and</li> <li>d) to the extent that the submission is rejected, give the occupier written notice of the grounds for rejecting the submission or part of the submission.</li> </ul> <p>(7) Unless the Director's request is withdrawn, the occupier shall comply with a request, or a varied request.</p>	
18.	The Director shall, in consultation with the Committee, make a determination with respect to a revised safety case submitted to him in accordance with regulation 13.	<b>Notice of decision for a revised safety case</b>

19.	If a revised safety case is not accepted, the safety case in force in relation to the facility immediately before the revised safety case was submitted remains in force subject to these Regulations, as if the revised safety case had not been submitted.	<b>Effect of rejection of revised safety case</b>
20.	The occupier shall keep the current safety case and the summary set out in regulation 15 at the respective facility.	<b>Storage of safety case</b>
	<b>PART III – OCCUPIER RISK-BASED APPROACH TOWARDS MAJOR INCIDENTS IN OIL AND GAS FACILITIES</b>	
	RISK MANAGEMENT PHILOSOPHY	
21.	<p>(1) Every occupier must develop in writing a risk management system that sets out the procedures and instructions to be implemented by the occupier in the identification, assessment and control of risk in a facility.</p> <p>(2) The risk management system to be established in accordance with sub-regulation (1) must:</p> <ul style="list-style-type: none"> <li>a) identify the type of risk assessment adopted by the occupier that achieves the objectives set out in regulation 25(4);</li> <li>b) define the risk acceptance criteria adopted by the occupier;</li> <li>c) ensure consistency and adequacy of the risk assessment undertaken by the occupier; and</li> <li>d) ensure that the methods used to identify, assess and control risk are appropriate and adequate for the purpose of: <ul style="list-style-type: none"> <li>i. identifying all occupational safety and health risks including external risks to the facility;</li> <li>ii. formulating potential scenarios of incidents that could occur;</li> <li>iii. taking into account effects and assess potential consequences of the potential scenarios identified in (ii) above;</li> <li>iv. assessing the frequency of risky scenarios and the level of the risk involved;</li> <li>v. establishing adequate controls and barriers and other measures necessary to prevent and protect against hazards; and</li> </ul> </li> </ul>	<b>Risk Management System</b>

	vi. the implementation and maintenance of mitigation and recovery measures.	
22.	<p>(1) Every occupier shall develop and maintain a comprehensive risk register setting out the risks identified by the occupier on completion of any risk assessment.</p> <p>(2) Any revision of the conclusions of any risk assessment undertaken by the occupier shall be recorded in the risk register.</p>	<b>Risk Register</b>
23.	<p>(1) Every occupier shall put in place and maintain preventative measures to guard against the occurrence of major incidents.</p> <p>(2) Every occupier shall ensure that its risk management system is able to:</p> <ul style="list-style-type: none"> <li>a) identify all hazards having the potential to lead to a loss of containment and/or a release of hazardous products that may cause a major incident;</li> <li>b) identify employees and third parties that are likely to be impacted and consider scenarios that have the potential to cause injury, loss and damage beyond the limit of the occupier's facility;</li> <li>c) characterize potential hazardous effects and their associated intensity taking into consideration the toxicity of hazardous substances, explosion and overpressure effects and thermal radiation effects;</li> <li>d) characterize kinetics of hazardous effects and consider the escalating factors as well as the potential domino effects;</li> <li>e) provide a detailed and systematic assessment of the risk associated with each hazard, including the likelihood, domino effects and consequences of each potential major incident; and</li> <li>f) identify technical and other control measures that are necessary to reduce the risk to a level that is as low as reasonably practicable.</li> </ul>	<b>Major Incident Prevention</b>
	DESIGN RISK	
24.	(1) Every occupier shall ensure that the design, engineering and construction of any facility is undertaken in accordance with Kenya Standards or in absence of such standards in accordance with	<b>Inherent Safety in Design</b>

	<p>an internationally recognised standard and upon the conclusion of a risk assessment.</p> <p>(2) Every facility shall be designed in accordance with the criteria set in the Third Schedule.</p> <p>(3) Any changes to any facility by the occupier shall be undertaken in accordance with regulation 28.</p>	
25.	<p>(1) Every occupier shall use appropriate qualitative and quantitative risk assessment methods to facilitate the understanding of risk and hazards having the potential to cause major incidents.</p> <p>(2) In undertaking a risk assessment, the occupier has the discretion to select a risk assessment test that establishes the matters set out in sub-regulation (4) below.</p> <p>(3) The types of risk assessment that the occupier may use, include but are not limited to:</p> <ul style="list-style-type: none"> <li>a) process hazard analysis and operability hazard study;</li> <li>b) modelling effects;</li> <li>c) defining blast zones; and</li> <li>d) hazards, effects, impacts, threats and other vulnerabilities identification.</li> </ul> <p>(4) The method of risk assessment used by the occupier must be able to identify, right from the design and conceptual phases, the following matters:</p> <ul style="list-style-type: none"> <li>a) controls and barriers that are necessary to eliminate or reduce risks or prevent the escalation of risks;</li> <li>b) operating limits of equipment and their safeguards;</li> <li>c) the safety critical element;</li> <li>d) fire, gas, leak and smoke detection systems;</li> <li>e) passive and active fire protections;</li> <li>f) emergency shutdown systems and process emergency controls;</li> <li>g) safe containment of hydrocarbons; and</li> <li>h) provision for temporary refuges, evacuation routes and lifesaving equipment.</li> </ul>	<p><b>Design Qualitative and Quantitative Risk Assessments</b></p>

	(5) In order to have a clear understanding of the risk, likelihood of occurrence and the effects of an incident, the consistency of assessment shall be proportionate to the complexity and magnitude of the risk and shall alternate between qualitative and quantitative risk assessment.	
26.	<p>(1) The occupier shall establish a criteria to determine the acceptability of risks identified upon undertaking a risk assessment.</p> <p>(2) The risk acceptance criteria established by the occupier must address the matters specified in the Fourth Schedule.</p> <p>(3) The occupier shall, in a manner that is clear and understandable, make known to all its employees at its facility the risk acceptance criteria established in accordance with sub-regulation (1) .</p>	<b>Risk Acceptance Criteria</b>
27.	<p>(1) In designing and maintaining a facility, the occupier shall carry out a process hazard analysis and a hazard and operability study according to the nature and complexity of the facility and the potential consequences resulting from any failure of any of aspect of the facility.</p> <p>(2) The process hazard analysis of plant and equipment undertaken by the occupier must identify:</p> <ul style="list-style-type: none"> <li>a) the potential deviations from the design specifications;</li> <li>b) potential process and equipment failure; and</li> <li>c) preventative solutions and recovery measures to the hazards noted in the analysis.</li> </ul> <p>(3) The occupier shall undertake the following additional analysis and studies when conclusions from process hazard analysis or hazard and operability studies are found inadequate:</p> <ul style="list-style-type: none"> <li>a) failure mode, effects, and criticality analysis;</li> <li>b) bowtie diagrams;</li> <li>c) fault tree analysis; or</li> <li>d) modelling effects and blast zones.</li> </ul>	<b>Process Hazard Analysis and Operability Study</b>
28.	(1) The occupier shall undertake modelling effects analysis in order to assess the range of potential effect of risks noted from the process hazard analysis.	<b>Modelling Effects and Blast Zones</b>

	<p>(2) The representation of the dispersion model or modelling the blast effect or thermal radiation shall be prepared in accordance with the limits set out in the Fifth Schedule.</p> <p>(3) The modelling effects analysis undertaken by the occupier must provide qualitative information and calculation of the kinetic effect of any identified risks.</p> <p>(4) The occupier shall ensure that the emergency measures it puts in place are adequate to guard against the potential effect of the identified risks.</p> <p>(5) If the Director is of the view that any of the risks identified by the occupier may affect third parties outside the facility, the Director may instruct the occupier to implement additional measures to:</p> <ul style="list-style-type: none"> <li>a) reduce the occupier's inventory;</li> <li>b) define the safety zone between the facility and surrounding structures or buildings; and</li> <li>c) put in place additional controls and barriers for the protection and safety of such third parties .</li> </ul> <p>(6) An occupier who has conducted a modelling effect study should demonstrate that the method followed in undertaking the analysis allows adequate representation of toxic or thermal effect and the dispersion radius.</p> <p>(7) Modelling studies shall be recognized as risk assessment studies and shall be recorded in the risk register by the occupier.</p>	
29.	<p>(1) The occupier shall establish appropriate technical, human and organizational controls and barriers in its risk management system to limit:</p> <ul style="list-style-type: none"> <li>a) the probability of a major incident or dangerous occurrence by implementing prevention measures;</li> <li>b) the intensity of the effects of a major incident or dangerous occurrence by putting in place protection and recovery measures; and</li> <li>c) the effects and consequences of major incident or dangerous occurrence on employees, third parties, the public and surrounding buildings by reducing vulnerability.</li> </ul> <p>(2) The occupier shall ensure that the controls and barriers it puts in place make the likelihood of</p>	<p><b>Barriers to eliminate, reduce risks or prevent escalation</b></p>

	<p>occurrence of identified risks as low as reasonably practicable.</p> <p>(3) The occupier shall demonstrate how the as low as reasonably practicable level is considered in its organization, according to the risk acceptance criteria established pursuant to regulation 26.</p> <p>(4) The occupier shall ensure that any controls and barriers identified in risk assessment shall be noted in action plans and implemented.</p> <p>(5) The occupier shall undertake regular measurements, monitoring and inspection of the controls and barriers it has put in place.</p> <p>(6) When assessing the residual risk level the occupier shall take into account the controls and barriers identified in the risk assessment.</p> <p>(7) Every occupier who identifies controls and barriers which are not in place or functioning when carrying out a risk assessment shall cause the interruption of operations to ensure that controls and barriers evaluated and risks mitigated.</p>	
30.	<p>(1) In performing risk assessment at the design stage of the facility, the occupier shall take into account the following:</p> <ul style="list-style-type: none"> <li>a) the strength of the materials selected for construction;</li> <li>b) defining the operating parameters setting out the lower and upper limit of the facility on normal operating conditions and abnormal but not critical conditions; and</li> <li>c) defining the operating limit above or under which the facility is likely to fail.</li> </ul> <p>(2) The occupier shall implement a quality control system to ensure reliable materials are used as per the design specifications of the equipment, and prevent any gas release or loss of containment from:</p> <ul style="list-style-type: none"> <li>a) mechanical failures and creep;</li> <li>b) stress and corrosion cracking;</li> <li>c) thermal shock failures which is the effect of cracking that results from rapid and extreme temperature changes; and</li> <li>d) failure of welds between components.</li> </ul> <p>(3) The occupier shall implement an appropriate process safety management system and install an appropriate process control system having regard</p>	<p><b>Material strength, safe operating envelope and operating limits</b></p>



	to the safe operating envelope and operating limits set at the design stage.	
31.	<p>(1) The occupier shall consider the modelling effect and blast zone in the design of a facility with respect to the spacing and configuration of the facility.</p> <p>(2) The occupier shall ensure that the facility is constructed and laid out in manner that is compliant with the Factories and Other Places of Work (Fire Risk Reduction) Rules, 2007.</p>	<b>Spacing and configuration of operating plant</b>
32.	<p>(1) The occupier shall put in place an efficient system for identifying the safety critical elements set out in sub-regulation (2) and demonstrate the effectiveness of such elements with respect to the facility.</p> <p>(2) The safety critical elements to be identified under sub-regulation (1) include:</p> <ul style="list-style-type: none"> <li>a) process control system, including the control room, and auxiliary control room;</li> <li>b) detection systems;</li> <li>c) passive and active fire protections; and</li> <li>d) emergency shutdown systems.</li> </ul> <p>(3) The occupier shall select safety critical elements that are manufactured in accordance with Kenya Standards or in absence of such standard in accordance with an internationally recognised standard.</p> <p>(4) The occupier shall undertake the maintenance of a safety critical element in accordance with the instructions and recommendations of the manufacturer and shall ensure that such maintenance is conducted by competent persons only.</p>	<b>Management of safety critical elements</b>
33.	<p>(1) In undertaking design risks studies, the occupier shall identify process hazards where release of hazardous substances may occur.</p> <p>(2) In order to properly control hazards substances, the occupier shall demonstrate that its detection systems are designed and implemented in a manner to:</p> <ul style="list-style-type: none"> <li>a) ensure early identification of near fire, process and gas leaks, release or loss of containment;</li> <li>b) prevent occurrence of a major incident and provide reliable control of the process, with an automatic fire and gas protection;</li> </ul>	<b>Detection systems</b>

	<p>c) ensure personnel are alerted in case of fire and gas leaks so that they can evacuate safely, and allow for the activation of firefighting systems.</p> <p>(3) The occupier shall, having regard to design risk assessment conclusions, identify adequate means for detecting gases and flammable atmosphere and /or fire.</p> <p>(4) The occupier shall ensure that its detection systems are able to perform the intended functions independently of other systems.</p>	
34.	<p>(1) Every occupier shall identify and install passive and active fire protection measures according to the risk assessment undertaken by the occupier.</p> <p>(2) Every occupier shall ensure that passive fire protection measures implemented at its facility by is capable of protecting the workers and other persons at the facility by:</p> <p>a) protecting critical structural items, such as emergency exits, temporary refuge, escape routes and critical equipment; and</p> <p>b) preventing the escalation of fire by providing thermal protection to relevant structures and equipment with sufficient fire resistance and safety critical elements.</p> <p>(3) Every occupier shall install and activate active fire protection to extinguish, control and repress fire upon detection and provide fire protection to prevent domino effects.</p> <p>(4) Every occupier shall ensure that activation of fixed fire-fighting equipment shall be automatic together with a manual backup such as opening of a valve or manual activation of a linked alarm call point.</p> <p>(5) An occupier shall define and select the firefighting media according to the intend and the duty of the required active fire protection.</p>	<b>Passive and active fire protection</b>
35.	<p>(1) Every occupier shall consider at the design and conceptual stages all provisions to ensure controls and barriers that have been identified remain functional.</p> <p>(2) Every occupier shall set up a monitoring and inspection process to ensure controls and barriers remain effective for the entire life of the relevant equipment.</p> <p>(3) Every occupier shall ensure that technical controls and barriers installed are monitored and inspected as per the manufacturer's recommendations and that such monitoring and inspection is performed by a competent person only.</p>	<b>Monitoring and inspection requirements for risk controls and barriers</b>

36.	<p>(1) Every occupier shall ensure that every facility in which a hazardous process is undertaken shall have an emergency shutdown system that can prevent the development of, or limit the consequences of, a major incident.</p> <p>(2) Every occupier shall design its emergency shutdown systems, based on the risk assessment studies it has undertaken, and such systems shall ensure safe shutdown:</p> <ul style="list-style-type: none"> <li>a) Automatically- to control immediately any deviation to the safe operating envelope</li> <li>b) semi-automatically where the occupier's personnel activate a piloted equipment or command to shut down the process; or</li> <li>c) manually where the occupier's worker needs to physically shut down the system,</li> </ul> <p>(3) Every occupier shall ensure that its emergency shutdown system is able to perform the intended functions independent of other systems and shall be located at a safe place for occupier's workers.</p> <p>(4) Every occupier shall ensure that its emergency shutdown system has a simple and clear command structure.</p> <p>(5) Every occupier shall ensure that workers are trained on the use of the occupier's emergency shutdown system.</p> <p>(6) Every occupier shall on a case by case basis, consider an emergency shutdown system that may be activated by a third party.</p>	<b>Provision for emergency shutdown systems</b>
37.	<p>(1) Every occupier shall ensure the safe containment of hydrocarbons.</p> <p>(2) Every occupier shall ensure that any tank used as a storage of hydrocarbons or hazardous substances, is surrounded by a bund capable of containing any loss of containment:</p> <ul style="list-style-type: none"> <li>a) and in the case of an on shore site, the occupier shall implement the requirements for safe storage of hydrocarbons as provided for in regulation 109; and</li> <li>b) and in the case of an offshore site, the occupier shall demonstrate to the Director that the system in place ensures safe containment of hydrocarbons.</li> </ul> <p>(3) Every occupier shall design a drainage system to ensure no hydrocarbons and or hazardous substances used in the process accumulate.</p>	<b>Safe containment of hydrocarbons</b>

	(4) Every occupier shall implement systems for removing and separating hydrocarbons from rain water.	
38.	<p>(1) Every occupier shall design emergency evacuation procedures so that all evacuations can take place in a simple, quick and safe manner.</p> <p>(2) Every occupier shall establish temporary refuges, evacuation routes, lifesaving equipment and process emergency controls that:</p> <ul style="list-style-type: none"> <li>a) ensure all emergency scenarios are taken into account;</li> <li>b) ensure personnel are able to evacuate quickly and efficiently under all conditions and there are at least two escape routes from each place;</li> <li>c) take into account the maximum number of personnel present on the facility ; and</li> <li>d) are easily recognizable and adequately marked.</li> </ul> <p>(3) Every occupier shall ensure that all employees are adequately trained on the use of the temporary refuges, evacuation routes, lifesaving equipment and process emergency controls.</p> <p>(4) Offshore occupiers shall ensure compliance and proper implementation of international conventions that Kenya has ratified such as the International Convention for the Safety of Life at Sea.</p> <p>(5) Every occupier shall ensure consistency of the emergency procedures it has put in place .</p>	<b>Provision for temporary refuges, evacuation routes, lifesaving equipment and process emergency controls</b>
39.	<p>(1) Every occupier shall document the following changes in the design of its processes:</p> <ul style="list-style-type: none"> <li>a) modification of operating envelope;</li> <li>b) modification of process parameters and process flow; or</li> <li>c) modification of controls and barriers designed at design risk assessments.</li> </ul> <p>(2) Modifications set out in sub-regulation (1) will require review of the safety case and submission to the Director for approval.</p>	<b>Management of process change</b>
	RISKS FROM OUTSIDE AND/OR WITH POTENTIAL IMPACT BEYOND OCCUPIER PERIMETER	

40.	<p>(1) Every occupier shall assess the risks, effects and consequences posed by external threats to the facility or installation including:</p> <ul style="list-style-type: none"> <li>a) natural hazards;</li> <li>b) human activity;</li> <li>c) third parties entering the facility including subcontractor, public, or any other person; and</li> <li>d) the effects of major incident at the facility to persons in close proximity.</li> </ul> <p>(2) Every occupier shall conduct the risk assessment required under sub-regulation (1) early at the design phase.</p> <p>(3) The occupier shall take into consideration the results of the risk assessment in sub-regulation (1) above in managing occupational safety and health issues on its site.</p> <p>(4) The occupier shall report the risks noted from the risk assessment undertaken in accordance with sub-regulation (1) in the safety case and risk register.</p>	<b>Hazard Identification of external threat and effects</b>
41.	<p>(1) Every occupier shall assess the external risk related to extreme environment conditions, which pose a threat to process unit, including:</p> <ul style="list-style-type: none"> <li>a) risk related to floods, with potential hazards to process energies, inventories of hazardous substances;</li> <li>b) risk related to extreme wind with potential hazards to structures;</li> <li>c) risk related to ground condition, its compaction and material, with potential hazards to the stability of process units, forces and constraints to structures and equipment;</li> <li>d) risk related to sea condition, current, tides, abnormal wave height with potential hazards to the stability of offshore units;</li> <li>e) risk related to lightning with potential fire hazards to process unit;</li> <li>f) risk related to natural fire from outside.</li> </ul> <p>(2) Such risk assessment shall evaluate the level of risk based on reliable data recorded from the past by the occupier or from public sources or based on the data received from a monitoring system on</p>	<b>Identification of extreme environment condition</b>

	<p>potential extreme weather conditions established by the occupier.</p> <p>(3) If the recorded data from the past by the occupier in sub-regulation (2) above is not available, the occupier shall implement its own system for collecting data.</p> <p>(4) Every occupier shall implement appropriate controls and barriers, to prevent, protect and recover from such situations.</p>	
42.	<p>(1) Every occupier shall assess external risk posed by industrial operations located in close proximity with the facility or installation, including the possible domino effects that may arise in the event of a major incident.</p> <p>(2) The assessment undertaken by the occupier in accordance with sub-regulation (1) above shall consider:</p> <ul style="list-style-type: none"> <li>a) hazardous substances produced or stored;</li> <li>b) major risk and major incident scenario; and</li> <li>c) alarm systems and emergency provision.</li> </ul> <p>(3) Every occupier shall establish a communication channel with industrial operations in close proximity with the facility or installation for sharing major incident information.</p>	<b>Proximity to industrial site with major incident potential</b>
43.	<p>(1) Every occupier shall consider the risks posed to the facility by onshore and offshore third party traffic, and shall assess the potential of collision to its installation.</p> <p>(2) Every occupier shall put in place adequate measures to mitigate the risks identified in sub-regulation (1).</p>	<b>Consideration of third party traffic</b>
44.	<p>(1) Every occupier shall evaluate the risks associated with the access of the facility or installation by the public.</p> <p>(2) Every occupier shall implement a safe design to prevent any incident that may arise from the use of equipment by non-trained persons.</p> <p>(3) Every occupier shall put in place appropriate measures to ensure the security of persons at its facility, which measures shall comply with any regulations or guidelines issued by the Director.</p> <p>(4) The occupier shall be responsible for compliance by external third parties with its operating occupational safety and health management system.</p>	<b>Consideration of external third parties with access to occupier site</b>

45.	<p>(1) Every occupier shall use modelling effect studies conducted for toxic or flammable products, and/or explosion scenario to identify potential hazards that would result in a major incident and affect persons outside the facility.</p> <p>(2) Every occupier shall conduct qualitative and / or quantitative risk assessment to evaluate the type of building, third parties and the public affected by a major incident scenario.</p> <p>(3) The occupier shall ensure suitable spacing in order to lower the risks in accordance with the modelling effect studies carried out.</p> <p>(4) The occupier shall be responsible for occupational safety and health communication to the public in cases where a major incident scenario would affect the public.</p>	<b>Identification of external vulnerabilities and spacing with external asset</b>
46.	<p>(1) Having regard to the major incident scenarios analysed, every occupier shall implement a system to ensure the public is made aware of:</p> <ul style="list-style-type: none"> <li>a) the major incident risks to which the public may be exposed;</li> <li>b) the phenomena, consequences of the phenomena and measures to protect the public and reduce the damage that may be caused by the phenomena; and</li> <li>c) the actions to be adopted by the public in the face of risks.</li> </ul> <p>(2) Every occupier shall relay the information set out in sub-regulation (1) to the relevant county government and the relevant national government agencies such as the National Disaster Operation Centre and Disaster Preparedness, Prevention and Management Unit and National Disaster Operation Centre.</p>	<b>Baseline for public information</b>
	<b>RISK MANAGEMENT IN OPERATION</b>	
47.	The management of operations such as construction and installation works or operating activities shall be controlled through the occupational safety and health management system described in Part IV of these Regulations.	<b>Occupational safety and health management system</b>
48.	<p>(1) Every occupier shall identify areas in its facility where flammable and highly flammable substances may leak to form an explosive atmosphere and thereafter take measures to eliminate or control the risks from the explosive atmosphere.</p> <p>(2) When conducting the assessment and zoning of explosive atmosphere, the occupier take into consideration:</p>	<b>Zoning and hazard Area Classification</b>

	<ul style="list-style-type: none"> <li>a) the hazardous properties of substances;</li> <li>b) the nature of the facility; and</li> <li>c) any process which may result in the release of flammable and highly flammable substances.</li> </ul> <p>(3) Every occupier shall analyse the result of the risk assessment and identify zones where explosive atmosphere could be found, as per the classification set out in Sixth Schedule.</p>	
49.	<p>(1) Prior to the start-up of a process unit, the occupier shall undertake a complete set of commissioning works and review to ensure that the:</p> <ul style="list-style-type: none"> <li>a) process unit is compliant with design specifications;</li> <li>b) assembly of components was done as planned; and</li> <li>c) quality of materials used to make the process unit is compliant with design requirements.</li> </ul> <p>(2) The occupier shall conduct start-up operations as per the designer instructions based on a pre-defined and documented sequence, and conducted by competent persons only.</p> <p>(3) The occupier shall give the Director a notice of two weeks prior to the of the initial start-up of a process unit.</p> <p>(4) Every occupier shall document instructions setting out a pre-defined and documented sequence for any normal shut down of a process unit.</p>	<b>Start up and shut down procedures</b>
50.	<p>(1) Every occupier shall establish a system for managing downgraded situations, that:</p> <ul style="list-style-type: none"> <li>a) detects and identifies any unexpected situations, including equipment failures and malfunctions;</li> <li>b) analyses the impact and possible consequences of downgrades situations;</li> <li>c) puts in place compensatory measures in accordance with the revised risk analyses following these situations;</li> <li>d) ensures that the acceptance or refusal of any activity during a downgraded situation is validated by a competent person; and</li> </ul>	<b>Operating in downgraded situation</b>



	<p>e) allows for the recording and monitoring of these situations.</p> <p>(2) Every occupier shall inform the Director of identified downgraded situations, as well as compensatory measures intended to control the adverse impact of the downgraded situations.</p> <p>(3) Every occupier may be required to demonstrate, at any time, the safe operating condition of the facility, even when experiencing downgraded situations.</p> <p>(4) In the event that the occupier fails to comply with sub-regulation (3), the Director may order the the occupier to shut down the process unit until a continuity plan is proposed to and approved by the Director.</p> <p>(5) Every occupier shall maintain an up to date register of downgraded situations on each of its sites, identifying their locations and the compensatory measures implemented.</p> <p>(6) Every occupier shall integrate the downgraded situations in the planning of its activities.</p> <p>(7) All downgraded situations and changes must be communicated to on-site personnel and subcontractors and to each shift change.</p>	
51.	<p>(1) The occupier shall not bypass emergency shut down and safety critical elements except in accordance with these Regulations.</p> <p>(2) The occupier may bypass emergency shut down and safety critical elements for urgent maintenance works on emergency system and shall ensure:</p> <p style="padding-left: 40px;">a) bypass and override of such equipment is properly assessed and risk controls and barriers have been identified and found adequate;</p> <p style="padding-left: 40px;">b) bypass and override operations have been authorized and performed by competent persons; and</p> <p style="padding-left: 40px;">c) bypass and override is limited to the shortest duration.</p> <p>(3) The occupier shall not compromise the safety of the workplace in any case, and may choose to safely shut down the process unit rather than bypassing such equipment.</p>	<b>Procedure for bypassing emergency shut down and safety critical elements</b>
52.	<p>(1) Every occupier shall ensure equipment used at its facility has been certified in accordance with internationally recognized standards.</p>	<b>Equipment certification</b>

	<p>(2) Every occupier shall ensure testing and physical examination of equipment by a person approved by the Director and delivery of the compliance certification.</p> <p>(3) Every occupier shall upon request by the Director make available to the Director equipment certification for examination and testing in respect of equipment including:</p> <ul style="list-style-type: none"> <li>a) pressurized vessels;</li> <li>b) lifting equipment;</li> <li>c) electrical equipment categories versus explosive atmosphere zone identified; or</li> <li>d) storage of hazardous substances equipment.</li> </ul> <p>(4) Every occupier shall ensure that equipment selected at construction and installations phases has quality tracking information and fulfils applicable standards or manufacturer codes and contains:</p> <ul style="list-style-type: none"> <li>a) an identification marking number;</li> <li>b) the name of manufacturer;</li> <li>c) the date of manufacture;</li> <li>d) the process limitations or parameters it fits to if any; and</li> <li>e) the date of the next certification inspection.</li> </ul>	
53.	<p>(1) For purposes of these Regulations, a transporter of petroleum is the occupier and is required to comply with these Regulations.</p> <p>(2) Drivers or road trucks and the occupier in the delivery or receiving plant shall ensure that loading and unloading instructions are in place and shall also ensure that:</p> <ul style="list-style-type: none"> <li>a. the truck has its certificate with a valid inspection report, and present extinguisher, appropriate marking and placards;</li> <li>b. the driver is trained and competent to undertake loading and unloading activities;</li> <li>c. vehicles are immobilised during transfer operations and equipped to prevent untimely movement;</li> </ul>	<p><b>Truck tanker safety requirements</b></p>

	<ul style="list-style-type: none"> <li>d. third parties are prevented from accessing the delivery area, and that barricades are installed;</li> <li>e. hoses and connections are in good condition, and are inspected prior to any use; and</li> <li>f. the truck is grounded prior to connection, and that the truck shall remain stationary until the operation is completed and the hose is disconnected.</li> </ul> <p>(3) The occupier shall ensure that any loading and unloading operation is supervised by a competent person.</p>	
54.	<p>(1) The occupier shall promote occupational safety and health culture among its workforce and its subcontractors, and particularly:</p> <ul style="list-style-type: none"> <li>a) bear all aspects of its occupational safety and health policy;</li> <li>b) demonstrate in a visible and proactive manner its involvement in occupational safety and health matters;</li> <li>c) treat any occupational safety and health anomaly as a priority and taking appropriate measures to correct it;</li> <li>d) highlight any positive initiatives;</li> <li>e) promote the acquisition of the occupier's values as to create a collective well-being.</li> </ul> <p>(2) The occupier's employees shall adopt occupational safety and health behaviour consistent with the occupier's rules and participate in their development and improvement.</p> <p>(3) The occupier shall ensure that its employees:</p> <ul style="list-style-type: none"> <li>a) participate in occupational safety and health meetings and events implemented by the occupier;</li> <li>b) share and trace all occupational safety and health information;</li> <li>c) correct dangerous situations observed according to the ability of the employees or exercise the right of withdrawal; and</li> <li>d) have the right to refuse to perform an activity for which they do not have the necessary skills and competences, and/or foresee to be an inevitable hazard.</li> </ul>	<p><b>Maintenance of a risk awareness culture</b></p>

	<b>PART IV: OCCUPIER'S SAFETY AND HEALTH MANAGEMENT</b>	
55.	<p>(1) In preparing the safety and health policy under section 7 of the Act, the occupier shall ensure that the policy adapts to the size and complexities of the occupier's facility.</p> <p>(2) The occupier shall ensure that the safety and health policy it prepares under section 7 of the Act is based on, among other factors:</p> <ul style="list-style-type: none"> <li>a) the risk assessment conducted at the facility as required under the Act and these Regulations;</li> <li>b) the size of the facility;</li> <li>c) training and competencies of the employees at the facility;</li> <li>d) the welfare of the employees at the facility;</li> <li>e) equipment and machinery used by the employees at the facility; and</li> <li>f) any other factor which the occupier considers relevant to the facility.</li> </ul>	<b>Safety and Health Policy</b>
56.	<p>(1) The occupier shall establish, implement and maintain documented occupational safety and health objectives at relevant functions and levels within the organization at the facility.</p> <p>(2) The occupier shall ensure that the objectives established in sub-regulation (1) shall be:</p> <ul style="list-style-type: none"> <li>a) specific;</li> <li>b) measurable according to occupational safety and health indicators;</li> <li>c) achievable within specific time-lines;</li> <li>d) relevant to the occupational safety and health issues at the facility; and</li> <li>e) consistent with the safety and health policy required under section 7 of the Act.</li> </ul> <p>(3) The occupier shall ensure that the objectives shall demonstrate the occupier's commitment to occupational safety and health issues at his organization and facility and shall demonstrate the occupier's commitment to, among others:</p> <ul style="list-style-type: none"> <li>a) prevention of injury and ill health of persons at a facility;</li> <li>b) compliance with applicable legal requirements under the Act and these Regulations and with other requirements to which the organization subscribes to;</li> <li>c) continual improvement;</li> <li>d) conducting risk assessment as required under the Act and these Regulations,</li> <li>e) providing adequate resources to develop and implement the occupation safety and health management system required to be</li> </ul>	<b>Occupier to establish occupation safety and health objectives</b>

	<p>established under regulation 60 of these Regulations;</p> <p>f) sharing of relevant occupation safety and health information with his personnel; and participating in investigations of major incidents and dangerous occurrences at his facility and reviewing of occupation safety and health indicators.</p>	
57.	<p>(1) The occupier shall establish, implement and maintain a programme for achieving the objectives set out in regulation 56.</p> <p>(2) The occupier shall ensure that the programme established in sub-regulation (1) includes as a minimum:</p> <p>a) designation of responsibility and authority for achieving objectives at relevant functions and levels of the organization at the facility; and</p> <p>b) the means and time-frame by which the objectives are to be achieved.</p> <p>(3) The occupier shall ensure that the programme is reviewed at regular and planned intervals, and adjusted as necessary, to ensure that the objectives are achieved.</p>	<b>Occupier to establish programme to achieve its objectives</b>
58.	<p>(1) The occupier shall ensure that there is at every facility an onsite manager in charge of that facility.</p> <p>(2) The occupier shall ensure that there is at all times a competent person at the facility who takes ultimate responsibility for occupational safety and health issues and is the person in charge of the occupational safety and health management system established under regulation 59.</p> <p>(3) The occupier shall ensure that a list of key occupational safety and health personnel and their contact information is displayed at the facility and includes, among others, the name and the contact details of:</p> <p>a) the manager referred to in sub-regulation (1);</p> <p>b) the competent person referred to in sub-regulation (2);</p> <p>c) all relevant persons whose services may be required under these Regulations and the Petroleum Act in case of an emergency;</p> <p>d) the medical officer responsible for provision of health services at the facility; and</p> <p>e) the members of the safety and health committee (if any).</p>	<b>Management at a facility</b>

59.	<p>(1) The occupier shall ensure that any person under its control performing tasks that may have an impact on occupational safety and health issues is competent on the basis of appropriate education, training or experience.</p> <p>(2) The occupier shall identify the training, skills and authorizations required for its petroleum operations and shall take into account the risk assessment conducted in accordance with regulation 21.</p> <p>(3) The occupier shall establish, implement and document a system to ensure certified up to date competencies of all employees working at the facility.</p> <p>(4) The occupier shall ensure that it keeps an up-to-date register of training, skills and staff authorizations of the occupier's personnel at the facility.</p> <p>(5) The occupier shall in addition to a permit to work in the instances set out in section 96 of the Act, issue, sign and approve an authorization to every employee who:</p> <ul style="list-style-type: none"> <li>a) conducts electrical work and such authorization shall specify the range of voltage, current within which the employee shall operate;</li> <li>b) operates or uses lifting equipment and such authorization shall identify the specific lifting equipment which the employee is authorised to use;</li> <li>c) handles hazardous substances and such authorization shall identify the operations and hazardous substances which the employee is authorised to handle;</li> <li>d) works at such height where there is risk of falling; and</li> <li>e) enters into confined spaces.</li> </ul>	<b>Competencies of employees</b>
60.	<p>(1) Every occupier shall establish and implement an occupational safety and health management system at a facility.</p> <p>(2) The occupational safety and health management system established in sub-regulation (1) applies to the occupier, all employees, and the occupier's subcontractors.</p> <p>(3) The occupational safety and health management system shall:</p>	<b>Establishment of occupational safety and health management system</b>

	<ul style="list-style-type: none"> <li>a) be proportionate to the hazards, industrial activities and complexity of the facility;</li> <li>b) be based on risk assessment conducted in accordance with these Regulations; and</li> <li>c) include within its scope the general management system including the organizational structure, responsibilities, practices, procedures, processes and resources for determining and implementing the major incident prevention policy.</li> </ul> <p>(4) the occupier shall ensure that the occupational safety and health management system established is explained to its employees and all other persons lawfully present in its facility.</p>	
61.	<ul style="list-style-type: none"> <li>(1) The occupier shall document its occupational safety and health management system to ensure safe operation of the process unit.</li> <li>(2) The occupier shall ensure that its occupational safety and health management system documentation is prepared and maintained taking into account the occupier's processes and the risks identified at the facility after a risk assessment is conducted in accordance with these Regulations.</li> <li>(3) The level of detail in the occupational safety and health management documentation shall be proportionate to the nature of the risks identified by the occupier and the documentation shall contain: <ul style="list-style-type: none"> <li>a) the policy prepared in accordance with the Act and these Regulations;</li> <li>b) the objectives set out in regulation 56.</li> <li>c) description of the scope of the occupational safety and health management system;</li> <li>d) description of the main elements of the occupational safety and health management system and their interaction, and reference to related documents;</li> <li>e) standard operating procedures at the process unit;</li> <li>f) documents, including records, determined by the organization at the facility to be necessary to ensure the effective planning, operation and control of processes that relate to the management of its occupational safety and health risks; and</li> </ul> </li> <li>a) templates and models for day to day operations at the facility.</li> </ul>	<p><b>Documentation of occupational safety and health management system</b></p>

	<p>(4) The occupier shall implement a document control process of the occupational safety and health management system.</p> <p>(5) The occupier shall establish, implement and maintain a procedure with respect to its occupational safety and health management system to:</p> <ul style="list-style-type: none"> <li>a) approve documents for adequacy prior to issue;</li> <li>b) review and update as necessary and re-approve documents;</li> <li>c) ensure that changes and the current revision status of documents are identified;</li> <li>d) ensure that relevant versions of applicable documents are available at points of use;</li> <li>e) ensure that documents remain legible and readily identifiable;</li> <li>f) ensure that documents of external origin determined by the organization at a facility to be necessary for the planning and operation of the occupational safety and health management system are identified and their distribution controlled; and</li> <li>g) prevent the unintended use of obsolete documents and apply suitable identification to them if they are retained for any purpose.</li> </ul> <p>(6) The occupier shall ensure that its occupational safety and health management system documentation is readily available to its employees.</p>	
62.	<p>(1) The occupier shall prepare standard operating procedures to ensure facilities, installation, systems and equipment are operated within defined design and operating limits at all times.</p> <p>(2) The occupier shall ensure that a standard operating procedure is developed for normal operations including:</p> <ul style="list-style-type: none"> <li>a) emptying and filling of tanks;</li> <li>b) purging, cleaning and gas freeing;</li> <li>c) process control; and</li> <li>d) basic maintenance works</li> </ul> <p>(3) The occupier shall consider abnormal operating conditions and provide details in the standard operating procedures so as to provide appropriate response to conditions reaching operating limits.</p> <p>(4) The occupier shall ensure that the standard operating procedures is:</p> <ul style="list-style-type: none"> <li>a) reliable;</li> </ul>	<p><b>Standard operating procedures</b></p>



	<ul style="list-style-type: none"> <li>b) up to date;</li> <li>c) explained to employees through training in a language they understand; and</li> <li>d) associated with equipment that is certified and being maintained.</li> </ul>	
63.	<p>(1) The occupier shall implement a system to:</p> <ul style="list-style-type: none"> <li>a) manage the maintenance and the certification of its equipment;</li> <li>b) ensure the integrity of its assets is maintained; and</li> <li>c) ensure that the process unit is safe to use.</li> </ul> <p>(2) The occupier shall define the applicable maintenance frequency for each of its equipment, taking into consideration the manufacturer's specifications, operating experience and applicable regulations.</p> <p>(3) The occupier shall ensure that any non-compliant equipment is taken out of service to prevent its use provided that if the equipment is found to be non-compliant but still functional, the occupier shall ensure that a risk assessment is by a competent person so as to identify and set additional operating limits.</p> <p>(4) The occupier shall track in a register all equipment subject to inspection and certification, and gather the following information:</p> <ul style="list-style-type: none"> <li>a) the identification number of such equipment;</li> <li>b) the type of the equipment;</li> <li>c) the date of the inspection;</li> <li>d) the defects and limitations noted;</li> <li>e) actions taken to rectify the defects and limitations identified in (d) above;</li> <li>f) the date of the certification; and</li> <li>g) the date of the next inspection.</li> </ul> <p>(5) The occupier shall keep the certification of each equipment in its equipment register as set out in the Ninth Schedule, which shall be made available for inspection by the Director.</p>	<p><b>Maintenance and asset integrity management documentation</b></p>
64.	<p>(1) The occupier shall implement a system to ensure the effectiveness of its occupational safety and health management system and shall ensure regular and planned inspections, checks and audits of the occupational safety and health management system.</p>	<p><b>Inspection procedure, program, and corrosion prevention plan</b></p>

	<p>(2) Notwithstanding the provisions of sub-regulation (1), every occupier shall ensure that there is conducted:</p> <ul style="list-style-type: none"> <li>a) an occupational safety and health management system audit at least once every twelve months in order to measure the adequacy and effectiveness of the systems and the quality of the records made; and</li> <li>b) regular site inspections of facilities, operations and equipment to check the implementation and compliance of the occupational safety and health management systems and the adequacy of equipment after the application of standard operating procedures.</li> </ul> <p>(3) Where corrosion is likely to affect the safe operating of the process unit, the occupier shall implement a corrosion prevention plan so as to monitor the corrosion level and to ensure the adequacy of corrosion prevention measures including corrosion allowance, coating conditions and the cathode and anodic protection.</p> <p>(4) The occupier shall ensure that it documents all activities under this regulation.</p> <p>(5) The occupier shall monitor anomalies resulting from inspections and shall ensure implementation of a follow-up plan in order to rectify the anomaly.</p>	
65.	<p>(1) The occupier shall put in place a system at the facility that ensures proper management of organizational, operational, environmental, human, technical and regulatory changes.</p> <p>(2) The occupier shall:</p> <ul style="list-style-type: none"> <li>a) identify any changes arising in its operations;</li> <li>b) analyse and classify the types of change into either an emergency change, temporary change, or a permanent change;</li> <li>c) analyse the impacts and possible consequences of these changes;</li> <li>d) review operational risk assessment so as to consider these changes and identify additional mitigation measures that may be required as a result;</li> <li>e) designate a competent person who shall ensure the changes are properly managed; and</li> </ul>	<p><b>Management of change procedure</b></p>

	<p>f) record and follow-up of the changes and modifications.</p> <p>(3) The occupier shall ensure the implementation and effectiveness of the management of changes and shall put in place action plans to track and monitor any changes.</p> <p>(4) The occupier shall document all the changes that have occurred during its operations.</p>	
66.	<p>(1) The occupier shall supervise any subcontractor at its facility and shall ensure that the subcontractor's occupational safety and health management system and subcontracted petroleum operations are adapted to the occupier's own facility.</p> <p>(2) A subcontractor shall inform the occupier if it intends to outsource any petroleum operations and get approval from the occupier.</p> <p>(3) The occupier shall at all times remain responsible for occupational safety and health issues arising out of all petroleum activities at its facility whether subcontracted or not.</p> <p>(4) The occupier shall:</p> <ul style="list-style-type: none"> <li>a) prior to engaging the services of a subcontractor, evaluate the subcontractor's occupational safety and health management system and shall consider: <ul style="list-style-type: none"> <li>i. the subcontractor's occupational safety and health policy and objectives;</li> <li>ii. the occupational safety and health performance of the subcontractor for the past three years; and</li> <li>iii. the subcontractor's risk management process.</li> </ul> </li> <li>b) coordinate the subcontractor's activities and subcontractor's occupational safety and health communication requirements;</li> <li>c) review the subcontractor's certification of equipment which the subcontractor intends to use to carry out petroleum operations;</li> <li>d) ensure pre-inspection of equipment and machinery prior to their mobilizations on the occupier's facility;</li> <li>e) ensure adequacy of subcontractor qualifications and competencies;</li> <li>f) review the subcontractor's process for monitoring medical fitness of its personnel;</li> <li>g) ensure that it communicates its own occupational safety and health rules and requirements to the subcontractor;</li> </ul>	<p><b>Sub-contractor management</b></p>

	<p>h) ensure supervision and monitoring of subcontractor's petroleum operations and shall:</p> <ul style="list-style-type: none"> <li>i. conduct an occupational safety and health induction of all the subcontractor's employees on arrival at the facility;</li> <li>ii. conduct occupational safety and health site tours;</li> <li>iii. ensure occupational safety and health training and sensitization as per occupier's own occupational safety and health training matrix;</li> <li>iv. ensure the implementation of permit to work system and authorizations for the subcontractor's employees; and</li> <li>v. ensure participation of the subcontractor in the occupier's occupational safety and health meetings.</li> </ul> <p>(5) A service provider or manufacturer shall not be considered a subcontractor for purposes of these Regulations except if such service provider or manufacturer is involved in installation works at a process unit.</p> <p>(6) Prior to awarding a contract to a subcontractor, the occupier shall request from its subcontractors an occupational safety and health plan or occupational safety and health manual that summarizes the subcontractor's occupational safety and health management system.</p> <p>(7) The occupier shall ensure that the subcontractor's occupational safety and health management system is in line with its own system and where it is not, the occupier shall put in place action plans to ensure the gaps are identified and properly aligned with its own management systems.</p> <p>(8) A subcontractor shall communicate to the occupier any relevant occupational safety and health information that may arise in the course of conducting petroleum operations.</p> <p>(9) A subcontractor who further subcontracts any petroleum operations shall implement a similar system to evaluate, coordinate and supervise their subcontracted petroleum operations.</p> <p>(10)The occupier shall assess its subcontractor's occupational safety and health management at the end of the contract period.</p>	
67.		<b>Permit-to-Work System</b>

	<p>(1) The provisions of section 96 of the Act apply to these Regulations.</p> <p>(2) The occupier shall ensure that:</p> <ul style="list-style-type: none"> <li>a) a permit to work shall be approved by a competent person prior to an employee performing any task in petroleum operations;</li> <li>b) a permit to work shall be issued together with any relevant documentation that may be required in order to perform the specific task and includes any relevant operating procedure, diagrams and risk assessment;</li> <li>c) the full names of the signatories of the permit to work shall be indicated on the permit to work;</li> <li>d) the permit to work shall identify a downgraded situation in the process unit;</li> <li>e) the permit to work shall be valid for a period of seven days from the date of issue and is renewable once only for another seven days;</li> <li>f) a hot work permit shall be issued when activities that present a risk of ignition are conducted and such hot work permit shall be associated with specific fire and explosion prevention controls and barriers;</li> <li>g) the permit to work form shall include the closing and decommissioning stage to ensure operations are completed and the facility is returned to safe operating condition; and</li> <li>h) continuing permit to work shall be properly communicated between shifts, with an efficient and adequate handover.</li> </ul> <p>(3) The occupier shall ensure that the permit to work shall be posted in the area of operations for the duration of the work.</p> <p>(4) The occupier shall suspend work if it identifies a discrepancy between the activity carried out and the description given in the permit to work.</p> <p>(5) The occupier shall take all necessary measures to ensure that the permit to work system is understood and used by all on-site personnel.</p>	
68.	<p>(1) The occupier shall ensure that isolations procedures or instructions shall be prepared by a competent person for any isolation to be performed on equipment or system being energized.</p>	<p><b>Safe Isolation, Lock-Out and Tag-Out Systems</b></p>

	<p>(2) The occupier shall document generally:</p> <ul style="list-style-type: none"> <li>a) the process, the equipment and type of works on its site which require isolation;</li> <li>b) the main sections of circuit to isolate;</li> <li>c) the equipment to be used for safe isolation;</li> <li>d) the means to secure isolation of the equipment from its energy source with lock out systems and the means of warning the isolation made with tag-out systems;</li> <li>e) the controls to ensure safe dissipation of stored energies, and confirmation the isolation is effective; and</li> <li>f) the training and competencies required for safe isolation and occupier authorisation in place to nominate workers identified for conducting safe isolation;</li> </ul> <p>(3) The occupier shall ensure that complex isolation is detailed in instructions setting out all the step by step actions that ensure safe isolation.</p> <p>(4) The occupier shall ensure that any isolation that is to be carried out is covered by the permit to work system.</p> <p>(5) The occupier shall ensure that isolation operations are performed only by a competent person who has:</p> <ul style="list-style-type: none"> <li>a) training on occupier's isolation procedures;</li> <li>b) appropriate documentation to ensure safe isolation; and</li> <li>c) suitable and appropriate equipment to carry out safe isolation.</li> </ul> <p>(6) The occupier shall ensure isolation is conducted in such a manner that the risk to inadvertently restart the process system or equipment is null.</p> <p>(7) The occupier shall ensure that removing isolation, locks and tags systems is done only upon approval by competent persons.</p>	
69.	<p>(1) Where the occupier's petroleum operations may expose employees to:</p> <ul style="list-style-type: none"> <li>a) radioactive sources as commonly used during non-destructive test; or</li> <li>b) natural occurring radioactive materials from hydrocarbons or drilling activities,</li> </ul>	<b>Radioactivity</b>

	<p>the occupier shall report such employee exposure to the designated health practitioner for medical examination.</p> <p>(2) Every occupier shall implement a system to monitor exposure of its employees to radioactivity and shall in accordance with the Radiation Protection Act prescribe a threshold of exposure that may not be exceeded by the occupier.</p> <p>(3) In the event the prescribed exposure limits in sub-regulation (2) above are exceeded, the occupier shall reassign the employee to a different working area.</p>	
70.	<p>(1) The occupier shall ensure sufficient on-site supervision of all its petroleum operations.</p> <p>(2) The occupier shall ensure that the supervisor in sub-regulation (1) is trained on the occupier's occupational safety and health management system.</p> <p>(3) The occupier shall ensure that the supervisor referred to in sub-regulation (1) is empowered to issue stop work authority in the event he is reasonably apprehensive that it is no longer safe to carry out any tasks allocated to an employee.</p>	<b>Supervision</b>
71.	<p>(1) The occupier shall ensure safe transportation of its employees and shall ensure that such transportation means meets the occupier's internal requirements on safe transportation.</p> <p>(2) The occupier shall ensure the competencies of drivers, pilots, shipmaster in order to ensure safe transportation of personnel.</p> <p>(3) The occupier shall ensure that its employees are not transported together with goods.</p> <p>(4) The occupier shall ensure that its employees are transported in accordance with Kenyan Standards and where there are none, internationally recognized and applicable standards.</p> <p>(5) The occupier shall ensure that the maximum number of persons to be transported and the speed limits within which such persons shall be transported are clearly set out.</p> <p>(6) The occupier shall ensure that offshore and air transportation are subjected to journey management system which shall include proper reporting of departure, estimated time of arrival, number of passenger so as to facilitate any loss of communication during transportation and search and rescue response.</p>	<b>Safe transportation of employees</b>

	(7) The occupier shall ensure that the transportation means are fitted with communication gadgets to ensure communication with the occupier at the facility.	
72.	<p>(1) The occupier shall ensure that any accommodation site for its employees shall be kept as far as possible from the process unit and the occupier shall ensure that there is sufficient safety distance between the process unit and such accommodation in accordance with modelling effect studies conducted by the occupier as set out in these Regulations.</p> <p>(2) If the occupier cannot prescribe safety distance as set out in sub-regulation, the occupier shall identify adequate fire and explosion protection in order to ensure safe evacuation of its employees should a major incident occur.</p> <p>(3) Where the occupier operates in a remote location where its employees shall be accommodated, accommodation shall include:</p> <ul style="list-style-type: none"> <li>a) gender consideration with separate accommodation for men and women;</li> <li>b) adequate number of sanitary facilities which shall be in decent conditions and having access to drinkable and sufficient water;</li> <li>c) individual bed for each employee; and</li> <li>d) canteens, galley, rest rooms, and health care unit where such facilities or services do not exist in the immediate vicinity.</li> </ul> <p>(4) The occupier shall ensure that the accommodation site is subjected to regular audit and inspection programs to ensure controls and barriers are adequately maintained.</p>	<b>Accommodation</b>
73.	<p>(1) The occupier shall develop and implement an internal system for collecting and recording all occupational safety and health events that occur on a facility.</p> <p>(2) The occupier shall encourage its employees to report any near miss, unsafe situation, incident or dangerous occurrence.</p> <p>(3) The occupier shall analyse the direct, indirect and underlying causes of an occupational safety and health event according to its consequences or potential severity.</p> <p>(4) The occupier shall analyse the occupational safety and health event to:</p> <ul style="list-style-type: none"> <li>a) understand the causal links of the incident;</li> </ul>	<b>Recording of occupational safety and health events at facility</b>



	<ul style="list-style-type: none"> <li>b) identify objectively the immediate and root causes as well as the factors contributing to them;</li> <li>c) determine the occupational safety and health mitigation measures to be implemented in order to prevent the event from occurring again; and</li> <li>d) improve the occupier's occupational safety and health management system.</li> </ul> <p>(5) The occupier shall ensure that lost time injuries and work related fatalities are fully investigated by a competent person.</p> <p>(6) The occupier shall suspend petroleum operations until the occupational safety and health events are clearly understood and it is demonstrated that operations can safely resume.</p>	
	<p>OCCUPATIONAL SAFETY AND HEALTH COMMUNICATION</p>	
74.	<p>(1) The occupier shall implement an occupational safety and health induction system for all workers involved in petroleum operations at the point of hiring the employee or if such employee is returning to work after a period of absence at the facility of more than six months.</p> <p>(2) Notwithstanding the provisions of sub-regulation (1) the occupier shall ensure that induction shall also be carried out to all visitors and subcontractor's employees.</p> <p>(3) The occupier shall ensure that occupational safety and health induction is specific to each facility and shall include:</p> <ul style="list-style-type: none"> <li>a) the overall presentation of the site and the general occupational safety and health organization;</li> <li>b) the safety conditions for accessing the facility and the applicable traffic rules;</li> <li>c) the applicable occupational safety and health procedures and emergency instructions;</li> <li>d) the presentation of the main risks and their associated controls and barriers;</li> <li>e) the identification of downgraded situations if any; and</li> </ul>	<p><b>Occupational safety and health induction</b></p>

	<p>f) the training, qualification and authorization requirements.</p> <p>(4) The occupier and its subcontractors shall establish a mentoring system with adequate supervision of new employees and employees whose tasks and assignments have been changed.</p> <p>(5) The occupier shall ensure that occupational safety and health induction conducted is recorded in order to ensure that all employees have been trained.</p>	
75.	<p>(1) The occupier shall implement a system to ensure the effective communication of occupational safety and health issues between:</p> <p>a) day and night shift employees for operations being conducted with different teams;</p> <p>b) different functions of an organisation are involved on a continuing operation;</p> <p>c) different entities which may be involved in an operation including a shift between occupier and a subcontractor.</p> <p>(2) The occupier shall ensure safe handover is conducted face to face between out-going employees and in-coming employees and shall ensure that:</p> <p>a) occupational safety and health events which have occurred are explained to the in-coming employee;</p> <p>b) ongoing work is presented, and its status confirmed; and</p> <p>c) planned activities are presented and appropriate documentation is transmitted.</p>	<b>Handover system</b>
76.	<p>(1) The occupier shall implement a system to ensure the effective communication of occupational safety and health information to the employee performing the task.</p> <p>(2) The occupier shall ensure that no task is undertaken without appropriate briefing to the employee is made in order to:</p> <p>a) present the task, sub-task and operating procedure as needed;</p> <p>b) detail the permit to work and the limitations;</p> <p>c) detail the equipment required for safe execution; and</p>	<b>Task briefing</b>

	d) proceed to a last minute risk review and check the controls and barriers are in place.	
77.	<p>(1) The occupier shall implement a program for improving occupational safety and health towards its organisation and develop health and safety culture through its workforce.</p> <p>(2) The occupier shall promote positive attitude towards safety, and shall implement behaviour based approach program in order to identify at-risk behaviour and provide solutions to correct such behaviour.</p> <p>(3) The occupier shall encourage a non-blaming culture in order to enhance employee participation in reporting unsafe situation and promote the concept of stop work authority referred to in these Regulations.</p>	<b>Behaviour based safety program</b>
78.	<p>(1) The occupier shall identify occupational safety and health indicators related to occupier occupational safety and health management system in order to enable the occupier monitor its occupational safety and health performance and seek area of improvement.</p> <p>(2) Notwithstanding the provisions of sub-regulation (1), the occupier shall identify the following indicators:</p> <p>a) leading indicators to measure the occupational safety and health preventive actions including number of training courses, the number of meetings and talks, the number of management field visits; and</p> <p>b) lagging indicators to measure the occupational safety and health results including the number of incidents and anomalies.</p> <p>(3) The occupier shall analyse occupational safety and health indicators in order to assess the occupier performance and shall identify occupational safety and health trends in connection with its operations.</p> <p>(4) The occupier shall undertake an annual overall review of occupational safety and health performance and present findings to its Safety and Health Committee.</p> <p>(5) The review under sub-regulation (4) shall identify the occupier's review of the occupational safety and health performance shall enable the occupier to identify occupational safety and health systems which may not be efficient enough, review the adequacy of occupational safety and health policy and assess if the occupational safety and health objectives have been achieved.</p>	<b>Occupational safety and health indicators key performance indicators and occupational safety and health indicators management review</b>

	(6) The occupier shall submit on an annual basis its occupational safety and health performance to the Director as per the Seventh Schedule.	
	<b>PART V: OCCUPATIONAL SAFETY AND HEALTH REPORTING SYSTEM</b>	
	REPORTING REQUIREMENTS	
79.	<p>(1) For purposes of these Regulations, the dangerous occurrences required to be reported under section 21 of the Act include:</p> <ul style="list-style-type: none"> <li>a) downgraded situation with a potential of severe consequences should a control or barrier fail;</li> <li>b) offshore vessel collision;</li> <li>c) Offshore loss of anchoring system or loss of propulsion leading to the loss of position and drifting situations;</li> <li>d) tank truck collision or roll over;</li> <li>e) incident involving the transportation of personnel;</li> <li>f) near miss incident on process unit with high potential consequences;</li> <li>g) any major shut down of process plant done for safety or emergency reasons; and</li> <li>h) gas release and loss of containment which presents high potential related to toxic effect or fire and explosion scenario.</li> </ul> <p>(2) The Director may require the occupier to cease an activity until causes of the dangerous occurrence has been established.</p>	<b>Expansion of definition of dangerous occurrences</b>
80.	<p>(1) The occupier shall conduct a full investigation and issue an investigation report of every incident or dangerous occurrence.</p> <p>(2) The occupier's investigation report issued in sub-regulation (1) shall be submitted to the occupational safety and health officer within thirty days from the date of the incident or the dangerous occurrence as the case may be in accordance with the Eighth Schedule.</p>	<b>Formal investigation</b>

	<p>(3) After submission of the investigation report in sub-regulation (2), the Director may request the occupier to provide any evidence of:</p> <ul style="list-style-type: none"> <li>a) the competencies of occupier employees;</li> <li>b) the risk management and risk assessment related to an incident;</li> <li>c) permit to work ;</li> <li>d) maintenance and integrity log and evidences; and</li> <li>e) operating procedures and instructions related to event,</li> </ul>	
	<p>INFORMATION SHARING</p>	
<p>81.</p>	<ul style="list-style-type: none"> <li>(1) After the occupier has conducted and concluded investigations in accordance with regulation 80 the occupier shall prepare lessons learnt from its incident and submit to the Director within three months of the incident or dangerous occurrence.</li> <li>(2) Where the Director considers it necessary in the interest of the public, or a section of the public, the Director may prepare and publish a lessons learnt report on any incident, dangerous occurrence or occupational disease in a facility.</li> <li>(3) The objective of publishing a lessons learnt report is to prevent or minimise the recurrence of any incident, dangerous occurrence or occupational disease in a workplace, and not to apportion blame or liability.</li> <li>(4) A lessons learnt report may be published before or after the conclusion of the investigation under section 128 of the Act.</li> <li>(5) A lessons learnt report on an incident, a dangerous occurrence or an occupational disease in a facility may — <ul style="list-style-type: none"> <li>a) contain an account of the incident, dangerous occurrence or occupational disease;</li> <li>b) specify the cause or causes of, and circumstances or factors leading to, the incident, dangerous occurrence or occupational disease insofar as they may be ascertained;</li> <li>c) contain an opinion by a person with technical or specialised knowledge of the machinery, equipment, plant, article, process, substance, work or workplace</li> </ul> </li> </ul>	<p><b>Lessons learnt report</b></p>

	<p>involved in the incident, dangerous occurrence or occupational disease;</p> <p>d) contain a warning of any danger or risk to the safety and health of persons at work or persons who may be affected by any undertaking carried on in the workplace;</p> <p>e) contain any recommendation to prevent or minimise the recurrence of any similar incident, dangerous occurrence or occupational disease in a workplace; and</p> <p>f) contain any other matter that the Director considers relevant, taking into account the objective mentioned in sub-regulation (3).</p> <p>(6) No matter or thing done by the Director or by any safety and health officer, member of staff or agent of the Director shall, if the matter or thing is done <i>bona fide</i> for executing the functions, powers or duties of the Director, render the member, officer, employee or agent or any person acting on his directions personally liable to any action, claim or demand whatsoever.</p>	
	<p><b>PART VI: EMERGENCY PREPAREDNESS</b></p>	
82.	<p>(1) The occupier shall be fully responsible for emergency preparedness and leading emergency response on its site.</p> <p>(2) The occupier shall properly anticipate the emergency scenario that may occur on its site as to:</p> <p>a) allocate pertinent, clear roles and responsibilities for emergency actors;</p> <p>b) assign an effective organization, means and resources to properly respond to emergencies;</p> <p>c) prepare and outline actions to be taken in emergency situations;</p> <p>d) detail basis for communications between all parties, either internal or external to occupier organization; and</p> <p>e) demonstrate emergency preparedness to the Director.</p> <p>(3) The occupier shall ensure that emergency preparedness is:</p> <p>a) proportionate to the scale of emergency scenario considered;</p>	<p><b>Principles of emergency preparedness and emergency response</b></p>

	<ul style="list-style-type: none"> <li>b) based on the worst case scenario;</li> <li>c) relevant to activities and size of occupier site; and</li> <li>d) covers all emergency scenarios identified in occupier risk assessment.</li> </ul> <p>(4) The occupier shall ensure at all times that personnel at the facility can quickly and safely evacuate.</p> <p>(5) When an emergency scenario presents a range of impact which may threaten surrounding neighbourhoods, the occupier shall:</p> <ul style="list-style-type: none"> <li>a) ensure proper coordination with the Director; and</li> <li>b) prepare and coordinate emergency response with other occupiers and persons in the vicinity and make provision to take appropriate actions with regards to the public such as alerting or evacuating.</li> </ul>	
83.	<p>(1) Depending on the emergency scenario in question, the occupier shall classify a tiered response as follows:</p> <ul style="list-style-type: none"> <li>a. Tier 1 - Emergency is controllable internally, with site equipment and resources and: <ul style="list-style-type: none"> <li>i. does not have the potential to extend to surroundings; or</li> <li>ii. does not need external resources.</li> </ul> </li> <li>b. Tier 2 - Emergency is a major incident and: <ul style="list-style-type: none"> <li>i. has the potential to extend to surroundings;</li> <li>or</li> <li>ii. requires external resources.</li> </ul> </li> </ul> <p>(2) In planning its emergency preparedness, the occupier shall ensure that its tier 2 emergency response is subjected to:</p> <ul style="list-style-type: none"> <li>a. preventive confinement or evacuation of personnel;</li> <li>b. immediate notification to authorities, neighbouring occupiers or third parties and the public;</li> <li>c. preventive shut down of operating units, complete or partial; and</li> </ul>	<b>Classification of level of emergency</b>

	d. mobilisation of occupier crisis cells if existing.	
84.	<p>(1) The occupier shall define and implement mechanisms to respond to the following situations based on its risk assessments:</p> <ul style="list-style-type: none"> <li>a) medical emergencies;</li> <li>b) environmental emergencies such as loss of containment leading to spill and gas emissions and gas release;</li> <li>c) property related emergencies such as equipment explosion and on-site fire; and</li> <li>d) emergencies related to security such as riots, kidnapping, sabotage and terrorism.</li> </ul> <p>(2) The occupier shall properly document all provisions made for emergency preparedness in an emergency response plan.</p> <p>(3) An emergency response plan contains:</p> <ul style="list-style-type: none"> <li>a) roles and responsibilities of emergency response plan players;</li> <li>b) means and resources allocated for emergency response;</li> <li>c) identification of potential emergency scenarios;</li> <li>d) a tiered response according to the anticipated scenario;</li> <li>e) the communication channel(s); and</li> <li>f) any other matter that the Director considers relevant.</li> </ul> <p>(4) The occupier shall ensure that the emergency preparedness contained in the emergency response plan is approved by a competent person.</p> <p>(5) The occupier shall demonstrate the effectiveness of its emergency response plan to the Director through its safety case or upon request.</p> <p>(6) Every occupier shall implement a personnel on board system to ensure the exact number of people on site is known at all times and document how such system is functioning.</p> <p>(7) Every occupier shall develop a medical evacuation procedure to document the contacts and type of transportation required to evacuate an injured person to an appropriate medical facility according to the severity of injuries.</p> <p>(8) The occupier shall review the emergency response plan every three years to ensure that the philosophy, personnel, equipment and</p>	<b>Emergency documentation</b>



	organisational activities remain adequate to manage emergencies.	
85.	<p>(1) Every occupier has a duty of care to its personnel and those subcontracted on its site in emergency situations.</p> <p>(2) Every occupier shall ensure that onsite medical response to emergencies shall be proportionate to the location of the site, the activities, and the medical care facilities available in occupier surroundings.</p> <p>(3) Every occupier is required to appoint a person responsible for medical response to ensure that:</p> <ul style="list-style-type: none"> <li>a. first aid assistance is provided within less than 5 minutes;</li> <li>b. advanced paramedic or nurse care is given within less than 20 minutes;</li> <li>c. professional care that is by a doctor is given in less than 1 hour, in a primary health care unit; and</li> <li>d. injured person is evacuated to high level health care unit that is a major hospital within 6 hours.</li> </ul> <p>(4) Every occupier shall ensure that medical evacuation shall be performed without unreasonable reasonable delay.</p> <p>(5) Every occupier shall be in charge of the primary medical evacuation of its personnel and subcontractor's from its site to appropriate medical care unit.</p> <p>(6) If external assistance for example an ambulance needs to enter the occupier's site, transfer of the injured person shall be undertaken in the designated safety zone.</p> <p>(7) Every occupier shall keep personnel medical information confidential, but ensure proper communication of this information to external hospitals should a life threatening incident occur.</p>	<b>Provision for Medical care and response</b>
86.	<p>(1) The occupier shall nominate an incident commander who shall lead the on-site response, and/or conduct emergency response.</p> <p>(2) Where the occupier site requires further emergency organisation, the occupier shall establish the emergency response team that will be directed by the incident commander.</p> <p>(3) Every occupier shall identify the emergency competencies required to respond to anticipated emergency scenario and assign a team that can:</p>	<b>Occupier organization for preparing and responding to emergency scenario</b>

	<ul style="list-style-type: none"> <li>a. direct emergency actions to help and assist personnel and to recover the situation;</li> <li>b. provide first aid and advanced medical care as required;</li> <li>c. conduct search and rescue procedure if such system is deemed necessary by the occupier;</li> <li>d. proceed to evacuation and/or confinement; and</li> <li>e. coordinate assistance from external persons.</li> </ul> <p>(4) The emergency response team shall consist of:</p> <ul style="list-style-type: none"> <li>a. the incident commander;</li> <li>b. competent persons to assist the incident commander for logistic coordination, human resources and operating controls;</li> <li>c. fire warden, fire marshal and fire brigade, search and rescue team; and</li> <li>d. first aid responder and paramedic or nurse and an onsite doctor as required.</li> </ul> <p>(5) The occupier shall ensure that the members of the emergency response team are trained, competent and experienced.</p>	
87.	<p>(1) The occupier may, depending on its assessment set up an upper crisis cell to assist the emergency response team in major incident management.</p> <p>(2) The functions of a crisis management cell is to:</p> <ul style="list-style-type: none"> <li>a. provide support to the emergency response team;</li> <li>b. mobilize the required equipment to take control of the emergency situation on site; and</li> <li>c. report to and advise the Director on actions to coordinate the emergency response.</li> </ul> <p>(3) The occupier shall ensure that a crisis cell shall be located in a safe area and a clear communication channel maintained with the incident commander.</p> <p>(4) If the incident commander and emergency response team are overwhelmed, personnel at the crisis cell shall take over on several relevant issues such as relationship with external persons for</p>	<b>Crisis management cells</b>

	example authorities, media, injured person next of kin and logistic support.	
88.	<p>(1) The occupier shall ensure that evacuation procedures are site specific, and two evacuation routes are identified for each workplace.</p> <p>(2) Where evacuation may present a danger for the personnel, such as in the event of hazardous substance release the occupier shall make provision for the confinement of the personnel in a safe room supplied with fresh air, under positive pressure to avoid gas inlet, or permanent air supply system where personnel can use gas masks.</p> <p>(3) Every occupier shall implement evacuation plans and/or diagrams displayed at a strategic location which shall contain:</p> <ul style="list-style-type: none"> <li>a. location of confinement rooms;</li> <li>b. location of life saving equipment such as first aid kit, life boats and emergency showers;</li> <li>c. location of manual emergency button;</li> <li>d. location of emergency shut down systems;</li> <li>e. evacuation routes;</li> <li>f. location of assembly points;</li> <li>g. location firefighting equipment; and</li> <li>h. emergency contact and instructions.</li> </ul> <p>(4) The occupier shall establish assembly points taking into consideration dominant winds.</p> <p>(5) The occupier shall establish the following assembly points:</p> <ul style="list-style-type: none"> <li>(i) a primary assembly point; and</li> <li>(ii) a secondary assembly point should the primary one not be reachable.</li> </ul> <p>(6) The occupier shall ensure that an alarm is audible from any point on site taking into consideration the level of noise.</p> <p>(7) If noise levels caused by the alarm are too high, the occupier shall add a visual signal alarm such as emergency lights.</p> <p>(8) Every occupier shall implement for the purpose of evacuation and abandonment a system of determining personnel on board in order to have an accurate determination of the persons present on site.</p>	<b>Confinement, or evacuation of personnel, abandonment and search &amp; rescue of personnel</b>

	<p>(9) Once personnel are evacuated to the assembly point, the occupier shall implement the personnel on board system by undertaking a headcount of the evacuees.</p> <p>(10) The occupier shall have a system in place to search and rescue any person discovered to be missing after undertaking the headcount of evacuees.</p>	
89.	<p>(1) The occupier shall communicate to the personnel the emergency arrangements made for emergency communication and alarms, especially when different alarm systems are in place relating to different emergency scenarios.</p> <p>(2) The occupier shall set communication channels for emergency responses and keep the means of communication dedicated to emergency scenario only.</p> <p>(3) The occupier shall maintain and test communication channels for emergency responses which shall be considered a critical safety element.</p> <p>(4) The occupier shall ensure that emergency means of communication shall be adequate as regard to emergency scenario, and be powered independently from common power source should the plant experience a general shut down.</p> <p>(5) Where the emergency threatens external communities, the occupier shall install an alarm and communication system to inform the public that an emergency is ongoing.</p>	<b>Emergency alarm and communications</b>
90.	<p>(1) The occupier shall install fixed fire-fighting systems in areas where a major incident scenario is likely to occur.</p> <p>(2) The occupier of a facility shall consider the following when calculating the water storage required onsite to ensure sufficient capacity at all times:</p> <ul style="list-style-type: none"> <li>a) the worst case of major incident scenario;</li> <li>b) the proximity and availability of reliable water sources in the vicinity of the facility; and</li> <li>c) the period during which the water will be required for the firefighting.</li> </ul> <p>(3) The considerations set out in sub-regulation (2) above shall be extended to calculate the quantity required on site for the firefighting media added to fixed water system.</p>	<b>Dimensioning emergency means and resources</b>

	<p>(4) The occupier with permanently manned facilities shall have water supply from fire pumps independent to the other water network, sufficient in number and in power to ensure sufficient water pressure is kept at all times to run conjointly the different active fire protection systems.</p> <p>(5) The occupier shall ensure that facilities where fixed water systems such as sprinkler, deluge or water mist systems, the pumps shall:</p> <ul style="list-style-type: none"> <li>a. start-up automatically in the event of a pressure drop in the fire main and/or detection of fire; and</li> <li>b. be capable of being manually activated from the central control room and at the pump unit.</li> </ul> <p>(6) The occupier shall ensure that that firefighting water piping shall be designed and placed so that sufficient supply of water is granted at all strategic places.</p> <p>(7) The occupier shall ensure that the manual activation of the firefighting systems activates the general alarm.</p> <p>(8) The occupier shall ensure that facilities have a reliable emergency power system that ensures firefighting equipment and systems are powered during an emergency situation.</p> <p>(9) Emergency equipment shall be considered a safety critical element.</p> <p>(10)The occupier shall include emergency equipment in its preventive maintenance program and test it regularly.</p>	
91.	<p>(1) In the event the occupier identifies a major incident scenario that may affect a person in close proximity to the facility pursuant to a risk assessment under regulation 42(1), the occupier and persons in close proximity to the facility shall agree on terms of mutual assistance.</p> <p>(2) The mutual assistance shall consist of providing to the other occupier emergency support based on occupier organization, means and resources.</p> <p>(3) A person potentially impacted by the occupier major incident scenario shall report to the occupier if any hazardous substances are present on its site so as to take it into consideration its risk management process and emergency response plan.</p> <p>(4) In the event of major incident scenario, the competent administration may request other</p>	<p><b>Occupiers mutual assistance and emergency coordination</b></p>

	<p>occupiers and persons in the area to provide assistance at the expense of the occupier facing an emergency.</p> <p>(5) The mutual assistance agreement between occupiers and persons in close proximity to the facility shall contain the following:</p> <ul style="list-style-type: none"> <li>a. notification and activation of emergency assistance;</li> <li>b. organization, means and equipment included in the assistance agreement;</li> <li>c. communication channels implemented between occupiers and persons in close proximity to the facility.</li> </ul>	
92.	<p>(1) Every occupier shall test its emergency response plan once a year with a realistic scenario of major incident, participation of the Emergency Response Team and activation of emergency equipment.</p> <p>(2) Every occupier shall test its medical evacuation procedures as follows:</p> <ul style="list-style-type: none"> <li>a. Emergency contacts are to be tested on a monthly basis to ensure transportation means and medical facilities are always responsive; and</li> <li>b. A drill is to be conducted at least once a year to assess efficiency of the mobilisation of transportation means, the quality of care of injured person and its transportation to hospitals provided that in the event that the occupier experiences a real case of medical evacuation the drill may not be required.</li> </ul> <p>(3) The occupier shall ensure that first aid drills are performed on a regular basis and an annual refresher course to ensure and maintain skills of the first aiders.</p> <p>(4) The occupier shall ensure that a fire drill includes firefighting testing, evacuation of personnel to assembly point and counting of personnel after evacuation.</p> <p>(5) Mutual assistance between occupiers shall be tested yearly with a major incident scenario.</p>	<b>Testing emergency response and frequency</b>
93.	<p>(1) In the event of an emergency situation, the occupier shall keep the following priorities:</p> <ul style="list-style-type: none"> <li>a. protection and assistance of people is the highest priority;</li> </ul>	<b>Emergency response priorities</b>

	<ul style="list-style-type: none"> <li>b. securing the process unit so as to avoid escalating factors and domino effects;</li> <li>c. anticipation of potential evolution of the emergency scenario to ensure proper control of the situation; and</li> <li>d. notifying and alerting emergency internal and external actors to ensure they are ready if their assistance is required.</li> </ul> <p>(2) The occupier shall notify the Director as soon as it identifies a situation with potential to lead to a major incident.</p>	
94.	<ul style="list-style-type: none"> <li>(1) The occupier shall notify the Director of the occurrence of a Tier 2 emergency at the occupier's facility.</li> <li>(2) Primacy of emergency management within the facility remains with the incident commander of the occupier affected by an emergency.</li> <li>(3) In the event the occupier fails to manage its onsite emergency response, the Director may assign another person to head the emergency coordination at the expense of the occupier facing an emergency.</li> <li>(4) In responding to an emergency whose effects go beyond the facility, the occupier shall collaborate with all the relevant government agencies including the Director, the Disaster Preparedness, Prevention and Management Unit and the National Disaster Operations Centre.</li> </ul>	<b>Primacy of emergency management</b>
95.	<ul style="list-style-type: none"> <li>(1) Before the occupier can resume operations after the occurrence of an emergency situation, it must ensure that: <ul style="list-style-type: none"> <li>a. the abnormal situation is controlled and the emergency considered over;</li> <li>b. the safety of personnel is not compromised;</li> <li>c. the integrity of the installation remains;</li> <li>d. causes of event are understood to avoid occurrence of another similar scenario; and</li> <li>e. the recovery phases to restore the affected area are initiated.</li> </ul> </li> </ul>	<b>Completion of emergency situation</b>

96.	<p>(1) The occupier shall in ensuring decommissioning works are conducted in a safe manner make appropriate plans and use appropriate methods and competent persons.</p> <p>(2) The occupier shall ensure that demolition works commence only after securing installation by venting, purging, inerting or using any other technique as required.</p> <p>(3) The occupier shall submit a safety case for decommissioning works to the Director.</p> <p>(4) The occupier shall ensure that there is a risk assessment conducted for decommissioning work and shall consider:</p> <p style="padding-left: 40px;">(a) the status of dilapidation of the installation with proper identification of associated hazardous areas;</p> <p style="padding-left: 40px;">(b) the potential residual stored energy in pressurized equipment; and</p> <p style="padding-left: 40px;">(c) the potential presence of residual hazardous substances into the installation.</p>	<b>Decommissioning of facility</b>
-----	---	------------------------------------

	<b>PART VII: UPSTREAM PETROLEUM OPERATIONS</b>	
97.	The regulations in this Part VII shall only apply to occupiers involved in upstream petroleum operations.	<b>Application to upstream petroleum operations</b>
98.	<p>(1) Every occupier who uses explosives shall ensure it has complied with the provisions of the Explosives Act to ensure safe use handling storage and transportation of explosives.</p> <p>(2) Every occupier shall use explosives as a seismic source of energy only when the occupier can demonstrate that it could not use any other source of energy to conduct upstream petroleum operations.</p>	<b>Compliance with Explosives Act</b>
99.	<p>(1) The occupier shall ensure safe use handling, transportation, storage and blasting of explosives in carrying out upstream petroleum operations.</p> <p>(2) The occupier shall ensure that all personnel involved in use handling, transportation, storage and blasting of explosives are competent persons and are issued with instructions on the use handling, transportation, storage and blasting of explosives.</p>	<b>Use of explosives and bunker management for geophysics surveys</b>



	<p>(3) The occupier shall ensure that the competent persons referred to in sub-regulation (2) are made aware of the risks associated with explosives.</p> <p>(4) The occupier shall issue an authorization to any employee who uses, handles, transports or blasts explosives or blasting materials.</p> <p>(5) The occupier shall not subcontract any activity related to the use handling, storage or transportation of explosives unless the occupier has complied with regulation 65.</p> <p>(6) The occupier shall ensure that explosives are transported in a convoy under armed response protection.</p> <p>(7) The occupier shall ensure that no detonator is stored with an explosive that is not a detonator.</p> <p>(8) The occupier shall ensure that no detonator is stored with a detonator of a different type.</p> <p>(9) The occupier shall ensure that the detonator used in upstream petroleum operations is safely designed and protected using electrostatics load from lightning.</p> <p>(10)The occupier shall ensure that only authorised employees are allowed into the explosives storage area.</p> <p>(11)The occupier shall ensure that the use of radios is not permitted in the vicinity where explosives are used stored handled or transported.</p>	
100.	<p>The occupier shall keep a register at its facility showing:</p> <ul style="list-style-type: none"> <li>a) the type and amount of explosives used, stored or removed for use;</li> <li>b) the date of use, storage or removal of the explosive;</li> <li>c) the particulars of the use of the explosive;</li> <li>d) the name of any person who entered a storage unit where explosives and blasting materials are kept;</li> <li>e) the name of the qualified person who made the record.</li> </ul>	<b>Register of Explosives</b>
101.	<p>(1) The occupier shall ensure that shooting activities conducted at its facility are safe and the occupier in this regard shall:</p> <ul style="list-style-type: none"> <li>a) establish a safety distance of at least 30m from the shooting point with a clear and non-obstructed view of the shooting point;</li> <li>b) put in place a loading process with spark free equipment and antistatic materials;</li> </ul>	<b>Shooting activities</b>

	<ul style="list-style-type: none"> <li>c) establish a suitable communication channel with an alert system which shall alert persons at the facility prior to any shooting;</li> <li>d) consider the weather conditions prior to commencement of any shooting activities.</li> </ul> <p>(2) The occupier shall establish procedure to be followed in case of any misfire during shooting activities and shall immediately report the exact coordinates of the abandoned non-exploded items to Director.</p>	
102.	<p>(1) The occupier shall ensure the use of vibrators for geophysics surveys is properly controlled.</p> <p>(2) The occupier who uses vibrators to conduct geophysics survey shall establish appropriate safety distances after taking into consideration including:</p> <ul style="list-style-type: none"> <li>a) buildings and construction sites;</li> <li>b) power lines and pylons;</li> <li>c) water wells; and</li> <li>d) pipelines for oil, gas, water or any other substance.</li> </ul> <p>(3) The occupier shall ensure that the safety distance established in sub-regulation (2) ensures that the surrounding assets will not be at risk of damage from vibrations.</p> <p>(4) The occupier shall ensure maintenance of pressurized high pressure vibrator's hydraulic system and shall ensure appropriate precautions are taken when operating on the pressurized high pressure vibrator's hydraulic system</p>	<b>Seismic vibrators safety distances</b>
103.	<p>(1) Prior to commencing drilling activities, the occupier shall prepare and have in place a drilling program specific to intended wells.</p> <p>(2) The drilling program required to be prepared in sub-regulation (1) shall contain:</p> <ul style="list-style-type: none"> <li>a) the name of the contractor conducting drilling operations;</li> <li>b) the name of well where drilling operations shall be conducted;</li> <li>c) the location and coordinates of the well where drilling operations shall be conducted;</li> <li>d) an indication on whether there are others wells heads nearby;</li> </ul>	<b>Drilling program</b>

	<ul style="list-style-type: none"> <li>e) the depth of the targeted well;</li> <li>f) the geological forecast;</li> <li>g) specifications and certification of the rig to be used to conduct drilling operations;</li> <li>h) the schedule of drilling operations;</li> <li>i) the sampling program;</li> <li>j) a basis for cementing and mud specifications;</li> <li>k) casing specifications;</li> <li>l) details of the anticipated quantities of crude oil or natural gas, and pressure expected at the oil field; and</li> <li>m) the specifications of the proposed well head or blowout preventer.</li> </ul> <p>(3) The occupier shall ensure that the drilling program is part of the safety case that is submitted to Director under regulation 9.</p>	
104.	<p>(1) Prior to commencing drilling activities, the occupier shall, after taking into consideration the drilling program, anticipate a wide range of emergency scenarios that may occur during drilling operations, and thereafter prepare a blowout contingency plan setting out an emergency response plan specific to drilling operations.</p> <p>(2) The blowout contingency plan in sub-regulation (1) shall include:</p> <ul style="list-style-type: none"> <li>a) The following anticipated scenarios: <ul style="list-style-type: none"> <li>i. pressure, kick and or blowout;</li> <li>ii. release of hydrogen sulphide gas;</li> <li>iii. collapse of the well;</li> <li>iv. loss of drilling integrity in extreme weather conditions at an offshore unit; and</li> <li>v. blowout preventer failure, rig fire, loss of well bore integrity;</li> </ul> </li> <li>b) The following recovery measures: <ul style="list-style-type: none"> <li>i. activation of shearing ram of the blowout preventer;</li> <li>ii. containment of hydrocarbons;</li> <li>iii. capping the underwater well;</li> <li>iv. relief well;</li> <li>v. blowing well on fire; and</li> <li>vi. oil spill trajectories modelling.</li> </ul> </li> </ul> <p>(3) The occupier shall ensure that the well control equipment has a remote-controlled shear or blind ram which is as close to the Christmas tree as is possible.</p> <p>(4) The occupier shall ensure that the well control equipment used at its facility is designed according to the drilling program and is capable of remote activation to ensure control of the well from a safe place in case of an emergency.</p>	<p><b>Blowout Contingency Plan and well control</b></p>

	<p>(5) The occupier of a floating facility shall ensure that such floating facility has an alternative activation system for activating critical functions of the blowout preventer for use in the event of an evacuation.</p> <p>(6) The occupier shall ensure that the drilling fluid system is designed in such a way that it mixes, stores, circulates and cleans a sufficient volume of drilling fluid with necessary properties in order to safeguard the drilling fluid's drilling and barrier functions.</p> <p>(7) The occupier of a floating facility shall ensure that such floating facility has the capacity to disconnect the riser package after the shear ram has cut the work string.</p> <p>(8) The occupier shall ensure that blow-out drills are conducted at least once a month and where the rig management considers it necessary, as often as is necessary.</p> <p>(9) Where a workplace is designated to be a rig mast, the occupier shall put in place suitable emergency exits which shall ensure immediate evacuation of the rig mast in the event of a blowout.</p> <p>(10) The occupier shall ensure that the personnel operating well control equipment and making drilling decisions are appropriately trained in well control techniques and methods.</p>	
105.	<p>(1) The occupier shall ensure that the equipment used on the surface or seabed of an offshore unit of the well head is designed so as to:</p> <ul style="list-style-type: none"> <li>a) ensure controlled flow during drilling operations, production, injection and well testing activities; and</li> <li>b) shut in and provide a barrier to prevent uncontrolled well flow,</li> </ul> <p>(2) The occupier shall ensure that no upstream petroleum operations are undertaken where there is a risk which subsists as a result of failure to comply with the provisions of sub-regulation 1.</p> <p>(3) The occupier shall ensure that there is at least one kill and one choke outlet with at least two full opening valves on each choke outlet.</p> <p>(4) Where the blowout preventer stack is equipped with shears rams, the occupier shall ensure they are capable of shearing the highest grade and heaviest drill pipe used on the rig.</p> <p>(5) The occupier shall ensure that the blowout preventer closing systems are activated within</p>	<p><b>Specification of well head and blowout preventer</b></p>

	<p>reasonable time in accordance with internationally recognized standards.</p> <p>(6) The occupier shall select and purchase blowout preventer equipment from a manufacturer who has quality control insurance and shall ensure that such equipment meets internationally recognized standards.</p> <p>(7) The occupier shall ensure that the blowout preventer and related equipment is pressure tested at least once every fourteen days and is function tested at least once every seven days.</p>	
106.	<p>(1) The occupier shall ensure that drilling activities do not commence until a full drilling pre spud review is conducted and the rig is found to be safe for operations.</p> <p>(2) The occupier shall ensure that the drilling pre spud review referred to in sub-regulation 1 is conducted by a competent person who will check:</p> <ul style="list-style-type: none"> <li>a) the general rig arrangement and configuration;</li> <li>b) the drilling equipment and system;</li> <li>c) the well control system in place;</li> <li>d) the drilling program in place;</li> <li>e) training and skill of personnel; and</li> <li>f) compliance with these Regulations.</li> </ul> <p>(3) The occupier shall after conducting the pre spud review implement corrective measures from its findings, and shall state if operations could commence.</p> <p>(4) The occupier shall ensure that a report of the drilling pre spud review is prepared and kept at the facility and is upon the request of a safety and health officer or Director open for inspection.</p> <p>(5) The occupier shall confirm the stability of an onshore platform receiving a drilling unit.</p>	<b>Drilling rig pre-spud review</b>
107.	<p>(1) The occupier shall develop and implement standard operating procedures for drilling operations, covering but not limited to the following activities:</p> <ul style="list-style-type: none"> <li>a) well testing;</li> <li>b) completion works;</li> <li>c) wireline operations;</li> </ul>	<b>Wells activities</b>

	<ul style="list-style-type: none"> <li>d) coiled tubing operations;</li> <li>e) snubbing operations;</li> <li>f) Pumping operations;</li> <li>g) acidizing;</li> <li>h) formation fracturing and high pressure pumping.</li> </ul> <p>(2) The occupier shall ensure that the standard operating procedures referred to in sub-regulation (1) shall properly identify the risk associated with those activities and shall take into consideration emergency preparedness prior to commencing operations.</p>	
	<b>PART VIII - MIDSTREAM PETROLEUM OPERATIONS</b>	
108.	The regulations in this Part VIII shall only apply to occupiers involved in midstream petroleum operations.	<b>Application to midstream petroleum operations</b>
109.	<p>(1) The occupier shall ensure that pipelines and pipework are appropriately identified and labelled on site so as to identify the hazardous substances, the flow direction, the substance phase and the pressure involved.</p> <p>(2) The occupier shall ensure that a pipeline which has been buried is properly identified on its surface with visible signs set at appropriate intervals.</p> <p>(3) The occupier shall ensure that the accurate global positioning system pipeline layout map is always up to date and available to key personnel such as control room personnel, the occupier's operating and maintenance personnel and the Director.</p> <p>(4) The occupier shall ensure that buried pipeline or pipework is properly protected from corrosion.</p> <p>(5) The occupier shall ensure that the design of piping is suitable and will sustain the expected working pressures, temperatures and structural stresses and shall comply with Kenyan standards or in their absence internationally recognized standards.</p>	<b>Pipeline and pipework</b>
110.	<p>(1) The occupier shall ensure safe storage of hydrocarbons and shall ensure:</p> <ul style="list-style-type: none"> <li>a) the storage facilities are designed in accordance with Kenyan standards or in their absence to recognized international standards, and that risks have been properly identified with modelling of potential major incident scenario, and such risks have been mitigated;</li> </ul>	<b>Safe Storage of Hydrocarbons</b>

	<ul style="list-style-type: none"> <li>b) the construction works meet the design specifications, and are commissioned by competent persons;</li> <li>c) the contents being stored are compatible with the construction material of the storage tank; and</li> <li>d) operating instructions are set, maintenance program established, and personnel are adequately trained.</li> </ul> <p>(2) The occupier shall ensure that every tank or vessel used for storage of hydrocarbons is fixed to the floor on a plan masonry which is properly dimensioned after taking into consideration ground stability.</p> <p>(3) The occupier shall ensure containers or tanks are:</p> <ul style="list-style-type: none"> <li>a) equipped with a second watertight envelope to detect any loss from the primary envelope; or</li> <li>b) placed in a watertight containment bund whose capacity must be at least equal to the greater of the following two values: <ul style="list-style-type: none"> <li>a. 110% of the capacity of the largest tank;</li> <li>b. 50% of the overall capacity of the associated reservoirs.</li> </ul> </li> </ul> <p>(4) The occupier shall ensure that bunds are impervious, and are not compromised by pipework and pipeline system, and that no accesses or equipment are installed inside the bund.</p> <p>(5) The occupier shall ensure that bunds are strong enough to resist a wave impact if the tank fails to free the whole inventories stored in once.</p> <p>(6) The occupier shall set up systems that prevent overfilling of storage tanks or vessels, and shall ensure that high and low-level detectors are fitted to the storage tanks so that alarms could allow closure of inlet promptly.</p> <p>(7) The occupier shall install pressure relief or vacuum system which meet Kenyan standards or internationally recognized standard to ensure that pressure increase or pressure drop do not affect storage integrity.</p> <p>(8) The system in sub-regulation (7) shall be based on the results of the design risk assessment.</p> <p>(9) The occupier shall ensure that pipelines used to transfer refrigerated liquefied petroleum gas shall be insulated to protect the product against unwanted heat gain.</p>	
--	---	--

	<p>(10)The occupier shall implement standard operating procedure for loading and unloading tanks, with clear instruction of rates, levels, grounding, blowing or venting process, and emergency systems, and shall ensure adequate training of personnel.</p> <p>(11)The occupier shall ensure pressurized vessel for liquefied petroleum gas sphere shall have a design pressure not less than the vapour pressure of the stored product at the maximum product design temperature.</p> <p>(12)The occupier shall ensure that both a minimum design temperature and a maximum design temperature is specified, marked on refrigerated vessels and controlled at all time.</p>	
111.	<p>(1) The occupier shall set appropriate safety precautions to carry out simultaneous operations.</p> <p>(2) The occupier shall prior to undertaking simultaneous operations ensure:</p> <ul style="list-style-type: none"> <li>a) meeting between the different stakeholders involved in the simultaneous operations;</li> <li>b) a communication channel is established with clear chain of command of operations;</li> <li>c) associated risks are identified and mitigated by all players at their workplaces;</li> <li>d) applicable procedures are defined and agreed on between stakeholders; and</li> <li>e) a simultaneous operations matrix identifying activities which could be undertaken during such operations and those which require specific safety measures, and those that could not be performed while operations are ongoing is put in place.</li> </ul>	<p><b>Provision for simultaneous operations conducted between production pipelines and refinery</b></p>
	<p><b>PART IX - DOWNSTREAM PETROLEUM OPERATIONS</b></p>	
112.	<p>The regulations in this Part IX shall only apply to occupiers involved in downstream petroleum operations.</p>	<p><b>Application to downstream petroleum operations</b></p>



113.	<p>(1) The occupier shall ensure that the liquefied petroleum gas tanks in its facility are properly identifiable, clearly marked and labelled.</p> <p>(2) The occupier shall ensure that liquefied petroleum gas tanks are installed, filled in and maintained with compliance to manufacturer's recommendation and Kenyan standards or in their absence internationally recognized standards.</p> <p>(3) The occupier shall ensure that cylinders are inspected before and after filling to ensure that they are fit to fill and have been correctly filled in accordance with Kenyan Standards or in their absence internationally recognised standards.</p> <p>(4) The occupier shall ensure that cylinders are filled with the intended product.</p> <p>(5) For maintenance works, the occupier shall implement safe procedure for emptying the tank or transferring liquefied petroleum gas to other tank.</p>	<p><b>Installation, use and maintenance of liquefied petroleum in domestic / commercial and industrial sites.</b></p>
114.	<p>(1) A petroleum service station occupier shall ensure:</p> <ul style="list-style-type: none"> <li>a. compliance with Kenyan Standards or in their absence internationally recognised standards;</li> <li>b. adequate signage is installed on delivery point so as to allow customers to properly identify risks, prohibitions and requirements;</li> <li>c. there is guidance or instruction for safe use of cylinders;</li> <li>d. that emergency stops or buttons are installed close to the delivery points so that service station employee or customers may activate it for any emergency need as to secure the station and the occupier shall ensure that reactivation is conducted by a competent person; and</li> <li>e. the occupier shall ensure that steel structures and pipework are earthed to prevent static electricity discharge.</li> </ul> <p>(2) The occupier shall ensure that the ground is free from spills and grease.</p> <p>(3) The occupier shall ensure that spill kit and absorber are made available at its facility.</p>	<p><b>Workplace orientated customer place in petroleum service station (PSS)</b></p>

<b>PART X - OFFENCES</b>		
115.	Any person who contravenes or fails to comply with any provision of these Rules shall commit an offence and the provisions of the Act on offences and penalties shall <i>mutatis mutandis</i> apply.	<b>General Prohibition and Offence</b>

**FIRST SCHEDULE**

Reg. 5 (6)

**PROVISIONS RELATING TO THE CONDUCT OF BUSINESS AND AFFAIRS OF THE COMMITTEE**

1.	<p>(1) The Committee shall meet at such place or places in Kenya and at such time or times as the chairman may determine and shall meet at least once in every month.</p> <p>(2) An ordinary meeting of the Committee shall be convened by at least fourteen days' written notice to the members by the secretary.</p> <p>(3) Notwithstanding the provisions of subparagraph (2), the chairman may, in his discretion, and shall, at the written request of at least three members of the Committee and within seven days of the request, cause an extraordinary meeting of the Committee to be summoned at such place and time as he appoints.</p> <p>(4) The quorum for the conduct of the business of the Committee shall be nine members, including the chairman.</p> <p>(5) The Chairman shall preside at every meeting of the Committee at which he is present but, in his absence, the members present shall elect one of the members to preside at the meeting.</p> <p>(6) A decision on any matter before the Committee shall be by a majority of votes of the members present and, in the case of an equality of votes, the chairman or the person presiding shall have a casting vote.</p> <p>(7) A written resolution or such resolutions consisting of several documents in like form, each signed by the members of the Committee, shall be as valid and effectual as if it had been passed at a meeting of the Committee duly convened and held.</p> <p>(8) Subject to the provisions of this Schedule, the Committee may determine its own procedures and may make standing orders, inter alia, in respect of the procedure for meetings and other business of the Committee.</p>	<b>Meetings</b>
2.	<p>(1) If a member of the Committee is directly or indirectly interested in any matter before the Committee and is present at a meeting of the Committee at which the matter is the subject of consideration, that member shall, at the meeting and as soon as practicable after the commencement thereof, disclose the fact and shall not take part in the consideration or discussion of, or vote on, any questions with respect to the matter or any other matter, or be counted in the quorum of the meeting during the consideration of the matter:</p> <p>Provided that, if the majority of the members present are of the opinion that the experience or expertise of such member is vital to the deliberations of the meeting, the Committee may permit the member to participate in the deliberations subject</p>	<b>Disclosure of interest</b>

	<p>to such restrictions as it may impose but such member shall not have the right to vote on the matter in question.</p> <p>(2) A disclosure of interest made under this paragraph shall be recorded in the minutes of the meeting at which it is made.</p>	
3.	The secretary of the Committee shall enter the minutes of all resolutions and proceedings of meetings of the Committee in books kept for that purpose.	<b>Minutes</b>

## SECOND SCHEDULE

### CONTENTS OF THE SAFETY CASE

	<ol style="list-style-type: none"> <li>1. Details of the operator's name, postal address and physical address.</li> <li>2. General presentation of the upstream, midstream and downstream petroleum operations (as the case may be).</li> <li>3. Layout of the facilities and a description, with suitable diagrams, of the installation.</li> <li>4. Inventory of hazardous substances;</li> <li>5. An adequate description of the occupier's occupational safety and health management system including information that is relevant to the facility.</li> <li>6. A description of the means by which the occupier shall ensure the adequacy of the design, construction, installation, maintenance or modification of the facility, for the relevant stage or stages in the life of the facility for which the safety case has been submitted.</li> <li>7. Notification of the design of the facility including: <ol style="list-style-type: none"> <li>a) a description of the process describing the final concept retained and an explanation of other concepts considered for a safe design;</li> <li>b) the identification of safety critical elements; and</li> <li>c) the integrity and maintenance strategies of the design.</li> </ol> </li> <li>8. Demonstration of the occupier's risk management at the facility, including the identification and the control of design risks, process hazards, external risks and potential impact beyond occupier's facility, major incident scenarios and operating risks.</li> <li>9. Demonstration of risk assessment together with a complete risk register and the conclusions of process hazard analysis, operability's studies, modelling effects studies, and hazards and effects analysis.</li> <li>10. A demonstration of risk reduction systems resulting from the risk assessment in paragraph 9 above implemented to ensure safe operating conditions,</li> <li>11. Provision of measurements campaigns planned and their controls.</li> <li>12. Emergency preparedness and response of the occupier</li> </ol>	Reg. 10
--	--	---------

### THIRD SCHEDULE

#### CRITERIA FOR DESIGN OF FACILITIES, INSTALLATIONS, SYSTEMS AND EQUIPMENT

<ul style="list-style-type: none"> <li>a) The risk of a major incident is as low as reasonably practicable;</li> <li>b) The main safety functions adequately prevent the occurrence of identified major incident scenario;</li> <li>c) The ability to withstand the loads, forces, constraints or actions caused by operation of the facility, installation, system or equipment;</li> <li>d) There is sufficient spacing between equipment and surrounding vulnerabilities;</li> <li>e) Representative oceanography, meteorology and earthquake data are taken into consideration,</li> <li>f) Operating limits are clearly established, consistent with equipment strength and within a safe operating envelope,</li> <li>g) Safety critical elements are identified to ensure safe control of the process,</li> <li>h) A failure of an item, a system or a single mistake could not result in major consequences,</li> <li>i) Barriers are established that can both detect abnormal conditions and reduce the potential for loss of containment or release of hazardous substances,</li> <li>j) They can be operated, tested and maintained without risk to the personnel,</li> <li>k) The possibility of human error is reduced to the minimum,</li> <li>l) Maintenance strategy is anticipated and facilitated.</li> <li>m) In some cases, operator shall have to consider the facilities, installations, systems and equipment can withstand mechanical damage caused by other activity.</li> <li>n) Facilities, installations, systems and equipment shall be placed at a safe distance from other facilities and objects so that they do not constitute an unacceptable risk to other facilities, other activities or the external environment.</li> </ul>	<p>Reg. 24(3)</p>
---	-------------------

### FOURTH SCHEDULE

#### RISK ACCEPTANCE CRITERIA

<p>1. Domains:</p> <ul style="list-style-type: none"> <li>a) Human consequences related to work related injury or disease, or civilians or public injured person as result of workplace incident,</li> <li>b) Gas release and/or hydrocarbon loss of containment,</li> </ul>	<p>Reg. 26(2)</p>
--	-------------------

- c) Damage to installation, or to third party assets (structural effect or cost related)
2. Risk acceptance criteria should identify:
- a) the likelihood an incident would occur;
  - b) the potential severity of the risk, for each domain considered.
3. The risk assessment criteria should be developed with reference to the method of risk assessment selected by the occupier.

As to illustrate risk acceptance criteria, the following risk matrix is given as an example :

<b>Likelihood</b>	Very Likely	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Not acceptable</i>	<i>Not acceptable</i>	<i>Not acceptable</i>
	Likely	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Not acceptable</i>	<i>Not acceptable</i>
	Possible	<i>Acceptable</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Not acceptable</i>
	Unlikely	<i>Acceptable</i>	<i>Acceptable</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>
	Very Unlikely	<i>Acceptable</i>	<i>Acceptable</i>	<i>Acceptable</i>	<i>Acceptable if ALARP</i>	<i>Acceptable if ALARP</i>
		1	2	3	4	5
<b>Severity</b>						

ALARP means As Low As Reasonably Practicable

Scale of severity shall be further developed by the occupier for the above domains.

Scale of likelihood shall be further developed by the occupier according to the exposure of its personnel and the probability of a scenario to occur.

Activities having a not acceptable risk shall not be undertaken

4. Domains:
- d) Human consequences related to work related injury or disease, or civilians or public injured person as result of workplace incident,
  - e) Gas release and/or hydrocarbon loss of containment,
  - f) Damage to installation, or to third party assets (structural effect or cost related)
5. Risk acceptance criteria should identify:
- c) the likelihood an incident would occur;
  - d) the potential severity of the risk, for each domain considered.

Reg. 26(2)

	6. The risk assessment criteria should be developed with reference to the method of risk assessment selected by the occupier.	
--	---	--

## FIFTH SCHEDULE

### REQUIREMENTS FOR MODELLING EFFECTS AND BLAST ZONES

	<p>1. Toxicity phenomena: operating hazardous substances in huge quantities shall be analysed to overview dispersion model of any release of these product, according to major incident scenario. Operator shall represent the range of potential toxic effect as per the threshold limits below:</p> <ul style="list-style-type: none"> <li>a) the distance to which the hazardous concentration could be reached in a given period of time, and according to realistic weather condition assumption</li> <li>b) the distance to which the lethal concentration could be reached in a given period of time, and according to realistic weather condition assumption (first lethal effects)</li> </ul> <p>2. Explosion effects (impacts due to overpressure wave): Any explosion scenario with the potential of major incident shall result in a geographical representation based on the following threshold limits:</p> <ul style="list-style-type: none"> <li>a) 20 mbar, representing the range from an explosion point which should expose building to glass braking effect (more than 10% of glass);</li> <li>b) 140 mbar, representing the range from an explosion point which should expose human to indirect lethal impact;</li> <li>c) 200 mbar, representing the range from an explosion point which should expose human to direct lethal impact (lungs haemorrhages for 1% of exposed people).</li> <li>d) The 200mbar overpressure wave shall also be considered as the threshold limit which potentially generate domino effect. Thus, domino effects shall be considered if this limit is reached by other process equipment in the radius of such overpressure wave.</li> </ul> <p>3. Thermal radiation radius, based on the following levels:</p> <ul style="list-style-type: none"> <li>a) 3 kW/m<sup>2</sup> for more than 2 minutes' exposure, representing the range from thermal source which should expose human severe reversible burns;</li> <li>b) 5 kW/m<sup>2</sup>, for more than 2 minutes' exposure, representing the range from thermal source which should expose human to death,</li> <li>c) 8 kW/m<sup>2</sup> for more than 2 minutes' exposure, representing the range from thermal source which should escalate the event in a more severe scenario as a result of domino effects,</li> </ul>	Reg. 28(2)
--	---	------------

## SIXTH SCHEDULE

Reg. 48(3)

**CLASSIFICATION OF EXPLOSIVE ATMOSPHERE**

For gases, vapours and mists		For dusts	
Zone 0	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.	Zone 20	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is present continuously, or for long periods or frequently.
Zone 1	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.	Zone 21	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is likely to occur in normal operation occasionally.
Zone 2	A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.	Zone 22	A place in which an explosive atmosphere in the form of a cloud of combustible dust in air is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

**SEVENTH SCHEDULE – KEY PERFORMANCE INDICATOR**

Reg. 78(6)



## ANNUAL OSH KEY PERFORMANCE INDICATORS

FROM 1st OF JANUARY TO 31st OF DECEMBER

YEAR

OSH REGISTRATION NUMBER

NAME OF OCCUPIER

NAME OF EMPLOYER

TOTAL

OCCUPIER

SUB CONTRACTOR

### LEADING INDICATORS

AVERAGE NUMBER OF WORKERS ON OCCUPIER SITE	0		
TOTAL OF WORKING HOURS	0		
NUMBER OF HOT WORK (PERMIT TO WORK)	0		
NUMBER OF OSH INDUCTIONS	0		
NUMBER OF TRAINING HOURS	0		
NUMBER OF MEDICAL FITNESS CERTIFICATES	0		
NUMBER OF EMERGENCY DRILLS & EXERCISE	0		
NUMBER OF FIRE AUDIT	0		
NUMBER OF OSH INSPECTION	0		

### LAGGING INDICATORS

NUMBER OF FATALITES	0		
NUMBER OF LOST TIME INJURIES (LTI)	0		
	to detail per subcontractors	Nb site	Nb sous-traitant
NUMBER OF DAYS LOST (DUE TO LTI)	0		
NUMBER OF INJURY WITHOUT DAY LOST (MEDICAL TREATMENT & FIRST AID CASE)	0		
<b>LOST TIME INJURY FREQUENCY RATE</b>			
<b>SEVERITY RATE</b>			
NUMBER OF DANGEROUS OCCURRENCES	0		
		Nb site	Nb sous-traitant
NUMBER OF DOWNGRADED SITUATIONS	0		
		Nb detail Opened Closed On going	Nb detail Opened Closed On going
LOSS OF CONTAINMENT (NUMBER and QUANTITIES in cubic meters)	0.00	Nb Volume	Nb Volume
GAS RELEASE (NUMBER and QUANTITIES in cubic meters)	0.00	Nb Volume	Nb Volume

## INFORMATION RELATED TO INDICATORS

AVERAGE NUMBER OF WORKERS ON OCCUPIER SITE	represent the average number of workers on site : 120 worker on january and 0 worker the rest of the year mean an average of 10 workers for the year
TOTAL OF WORKING HOURS	number of working hours spent on occupier production and offices sites
NUMBER OF HOT WORK (PERMIT TO WORK)	means the total of hot work permit issued during the year
NUMBER OF OSH INDUCTIONS	means to total of employee having received the occupier OSH induction
NUMBER OF TRAINING HOURS	means the total of working hours, not including OSH induction, paid by occupier. (5 trainee having received 8 hours course represent 40 training hours)
NUMBER OF MEDICAL FITNESS CERTIFICATES	Represent the total number of medical certificate for fitness delivered by occupational health practitioner
NUMBER OF EMERGENCY DRILLS & EXERCISE	represent the total of drills & exercised performed and documented by occupier, regardless their type (muster point drill, firefighting)
NUMBER OF FIRE AUDIT	Means the number of fire audit performed by a fire auditor
NUMBER OF OSH INSPECTION	Means the number of OSH inspection performed by a OSH officer
NUMBER OF FATALITES	mean the total of workers fatally injured
NUMBER OF LOST TIME INJURIES (LTI)	means the total of worker injured and not capable to return to his normal duty the day after.
NUMBER OF DAYS LOST (DUE TO LTI)	represent the total of day lost due to an LTI
NUMBER OF INJURY WITHOUT DAY LOST (MEDICAL TREATMENT & FIRST AID CASE)	represent the total of medical treatment cases and first aid cases recorded by occupier
NUMBER OF DANGEROUS OCCURRENCES	represent the total of dangerous occurrences as given in schedule 1 of OSHA and section 77 of OSH O&G regulation
NUMBER OF DOWNGRADED SITUATIONS	number of downgraded situation on occupier site
LOSS OF CONTAINMENT (NUMBER and QUANTITIES in cubic meters)	means the number of loss of containment of liquid hydrocarbons
GAS RELEASE (NUMBER and QUANTITIES in cubic meters)	means the number of gas releases
<b>LTI FREQUENCY RATE</b>	$(\text{number LTI} / \text{number of working hours}) * 1\ 000\ 000$
<b>SEVERITY RATE</b>	$(\text{number lost days} / \text{number of working hours}) * 1\ 000$

**EIGHTH SCHEDULE – INCIDENT REPORT**

Reg 80(2)

**ACCIDENT / DANGEROUS OCCURRENCE REPORT**

**Title of event:**

OCCUPIER DETAILS			
Occupier OSH registration certificate :			
Occupier Name			
Sector	<input type="checkbox"/> Upstream	<input type="checkbox"/> Midstream	<input type="checkbox"/> Downstream

ACCIDENT / DANGEROUS OCCURRENCE DESCRIPTION					
<b>1. INTRODUCTION</b>					
Work site: (Full address / designation)			Location on site : (indication where it happens)		
Did event occur on	<input type="checkbox"/> Onshore		<input type="checkbox"/> Offshore		
Did event occur on	<input type="checkbox"/> Seismic crew	<input type="checkbox"/> Drilling unit	<input type="checkbox"/> Production Platform	<input type="checkbox"/> Hydrocarbons Storage farm	<input type="checkbox"/> Fabrication Yard
	<input type="checkbox"/> Office Facility	<input type="checkbox"/> Base camp	<input type="checkbox"/> Barges / Ships	<input type="checkbox"/> transportation of personnel	<input type="checkbox"/> transportation of hydrocarbons (pipeline / truck)
	<input type="checkbox"/> service station	<input type="checkbox"/> Other			
What date did event occur:			What Time (24 hr):		
<input type="checkbox"/> Involves subcontractor OR <input type="checkbox"/> does not involve subcontractors			Names : Names : Names :		
<b>2 – TYPE OF ACCIDENT / DANGEROUS OCCURRENCE (could be several)</b>					
Type of dangerous occurrence (refer to 1 <sup>st</sup> schedule from OSHA and section 78 of O&G regulation)					
Range of consequences and classification	<input type="checkbox"/> Fatality	Number of fatality :			
	<input type="checkbox"/> Lost time Injury	Number of LTI : Number of day lost :			
	<input type="checkbox"/> loss of containment / gas release	Volume / quantity :			
	<input type="checkbox"/> Fire/Explosion	Damage beyond occupier limits : yes <input type="checkbox"/> / no <input type="checkbox"/> extinguishing time : _____			
	<input type="checkbox"/> Collision	Type of transportation :			
	<input type="checkbox"/> High potential near miss or hazardous situation / downgraded situation	To detail :			
<b>3 – TYPE OF ACTIVITY PERFORMED AT WORKPLACE DURING ACCIDENT / DANGEROUS OCCURRENCE (could be several)</b>					
<input type="checkbox"/> Loading / shooting explosives	<input type="checkbox"/> Drilling activities	<input type="checkbox"/> Well completion activities			
<input type="checkbox"/> Pipelay activities	<input type="checkbox"/> Painting / Coating	<input type="checkbox"/> Production activities			
<input type="checkbox"/> Electrical Work	<input type="checkbox"/> Trenching Operations	<input type="checkbox"/> Workshop Activities			

<input type="checkbox"/> Maintenance	<input type="checkbox"/> Loading / unloading hydrocarbons	<input type="checkbox"/> Use / handling of hazardous substances
<input type="checkbox"/> Lifting / Crane / Forklift Operations	<input type="checkbox"/> Bunkering	<input type="checkbox"/> Pressure Testing
<input type="checkbox"/> Confined Space Entry	<input type="checkbox"/> Cutting/Grinding	<input type="checkbox"/> Welding/Burning
<input type="checkbox"/> Working at Height	<input type="checkbox"/> Non destructive test	<input type="checkbox"/> Scaffolding erection / dismantling
Other : (to detail) :		
<b>4. DESCRIPTION OF EVENT (Keep to facts and chronological event only – What happened and who was harmed / what was damaged)</b>		
(If people were injured, submit in addition to this form ONE injury report below per injured person)		
Number of people involved:		Number of Witnesses:
Names:		Names:
<b>5. DIRECT CAUSES</b>		
<b>CONTRIBUTING ACT:</b>		<b>CONTRIBUTING CONDITIONS:</b>
<input type="checkbox"/> Operating equipment without authority <input type="checkbox"/> Failing to warn <input type="checkbox"/> Failing to secure / lacking safety precautions <input type="checkbox"/> Operating machinery at improper speed <input type="checkbox"/> Making safety device inoperable <input type="checkbox"/> Removing/ ignoring safety barrier <input type="checkbox"/> Using defective equipment <input type="checkbox"/> Using machinery and equipment incorrectly <input type="checkbox"/> Failing to use personal protection equipment properly <input type="checkbox"/> Improper loading <input type="checkbox"/> Improper placement (object) <input type="checkbox"/> Improper lifting <input type="checkbox"/> Improper positioning for task (person) <input type="checkbox"/> Servicing equipment in operation <input type="checkbox"/> Horseplay <input type="checkbox"/> Under influence of alcohol or drugs <input type="checkbox"/> Contaminating working conditions <input type="checkbox"/> Working without valid Permit to Work <input type="checkbox"/> Working at height without restraint <input type="checkbox"/> Other		<input type="checkbox"/> Inadequate guards or barrier <input type="checkbox"/> Inadequate or improper protective equipment <input type="checkbox"/> Defective tools / equipment or materials <input type="checkbox"/> Congestion or restricted area <input type="checkbox"/> Inadequate warning system <input type="checkbox"/> Fire and explosion hazards <input type="checkbox"/> Poor housekeeping /disorder <input type="checkbox"/> Hazardous working environment <input type="checkbox"/> Noise <input type="checkbox"/> Radiation <input type="checkbox"/> High/Low temperature <input type="checkbox"/> Inadequate or excess illumination <input type="checkbox"/> Inadequate ventilation <input type="checkbox"/> Misplaced / unsecured objects / Object liable to fall <input type="checkbox"/> Slippery Surface / Trip Hazard <input type="checkbox"/> Insufficient marking <input type="checkbox"/> Strong wind / high waves <input type="checkbox"/> Failure of control / barrier <input type="checkbox"/> Poor visibility <input type="checkbox"/> Other
<b>6. ROOT CAUSES</b>		
To detail findings of accident investigation :		
Initial Investigation conducted by:		
Make a list of all photographs or sketches here:		
<b>PERSONAL FACTOR:</b>		<b>JOB FACTOR:</b>
<input type="checkbox"/> Physical ability <input type="checkbox"/> Work pressure/Stress <input type="checkbox"/> Lack of attention <input type="checkbox"/> Lack of knowledge /skill <input type="checkbox"/> Abuse or misuse <input type="checkbox"/> Lack of experience <input type="checkbox"/> Improper motivation <input type="checkbox"/> Ignoring procedures <input type="checkbox"/> Fatigue		<input type="checkbox"/> Leadership or supervision <input type="checkbox"/> Engineering <input type="checkbox"/> Purchasing <input type="checkbox"/> Maintenance <input type="checkbox"/> Tools / equipment / materials <input type="checkbox"/> Wear and tear <input type="checkbox"/> Training / Induction <input type="checkbox"/> Procedures / instructions <input type="checkbox"/> Responsibilities

Other

Other

**7. IMMEDIATE ACTIONS & ACTIONS BEING TAKEN**

What immediate Actions were taken to respond to this accident / dangerous occurrence?

What further action, if required, is being taken?

**8. REPORT SIGN OFF**

Report Originated by:

Title of Originator:

## INJURY REPORT

(1 form for each injured person who could not return to his position the day after the accident)

EVENT RELATED : (title)

### 1. INJURED PERSON'S DETAILS

Name / Surname:	ID Number:
Address:	Date of Birth:
Employer:	Job Title:
How long with occupier                      yrs	Insurance :
How long on shift prior to injury?                      hrs	<input type="checkbox"/> Not Applicable

### 2. INJURY

**TYPE OF EVENT:**

<input type="checkbox"/> Slip / trip / fall	<input type="checkbox"/> Caught between objects	<input type="checkbox"/> Struck by flying debris	<input type="checkbox"/> Other - Please specify
<input type="checkbox"/> Fall over 2 mtrs	<input type="checkbox"/> Struck against object	<input type="checkbox"/> Repetitive motion	
<input type="checkbox"/> Over exertion in lifting	<input type="checkbox"/> Struck by object	<input type="checkbox"/> Dive related infection	

**TYPE OF INJURY:**

<input type="checkbox"/> Bruising / abrasion	<input type="checkbox"/> Electric shock	<input type="checkbox"/> Particle in eye
<input type="checkbox"/> Cut / laceration	<input type="checkbox"/> Chemical exposure burn	<input type="checkbox"/> Welding flash
<input type="checkbox"/> Crush	<input type="checkbox"/> Burn	<input type="checkbox"/> Internal injury
<input type="checkbox"/> Fracture	<input type="checkbox"/> Radiation burn	<input type="checkbox"/> Multiple injuries
<input type="checkbox"/> Stretch / twisting	<input type="checkbox"/> Poisoning	<input type="checkbox"/> Other
<input type="checkbox"/> Animal bite	<input type="checkbox"/> Infection	

#### WHAT WAS INJURED/ AFFECTED ?

<input type="checkbox"/> L	<input type="checkbox"/> R	<input type="checkbox"/> Eye	<input type="checkbox"/> L	<input type="checkbox"/> R	<input type="checkbox"/> Leg	<input type="checkbox"/> Head	<input type="checkbox"/> Abdomen
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Ear	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Knee	<input type="checkbox"/> Face	<input type="checkbox"/> Pelvic Area
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Shoulder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Ankle	<input type="checkbox"/> Mouth	<input type="checkbox"/> Skin
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Arm (upper / lower)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Foot	<input type="checkbox"/> Neck	<input type="checkbox"/> Internal
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Hand	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Toe	<input type="checkbox"/> Chest	<input type="checkbox"/> Respiration
						<input type="checkbox"/> Back	<input type="checkbox"/> Other

### 3. COMMENTS ON INJURY

### 4. TREATMENT AND RECOVERY

Is the injured person evacuated to hospital?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name of hospital:
Was a treatment given by a doctor:	<input type="checkbox"/> Yes <input type="checkbox"/> No	Name of Doctor:
Does the injured person have temporary disabilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Details of treatment :
Does the injured person have permanent disabilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	Details
How many working days were lost due to the accident? (from day after accident to its return, without day off and week end) : ____ d		

### 5. CONFIRMATION BY INJURED PERSON

The injured party should have agreed to have his/her details available on file and that he/she confirms their accuracy Name: The injured party should sign here Signature:	Alternatively, provide the name of a witness who can confirm that the injured party has agreed to the details Name:  Date:
---	---

Signature confirms agreement on the accuracy with the details completed on this injury report.

## NINTH SCHEDULE – EQUIPMENT REGISTER

Reg 63(5)

<small>OCOURIER</small>	
<small>SITE</small>	
<small>OSM Certificate number</small>	
<small>DATE OF UPDATE</small>	

<b>EQUIPMENT REGISTER</b>
---------------------------

N°	Equipment	Type	Location	ID number	Manufacturer	Date of manufacture	Date of inspection	Inspector / Certifier	Status	Validity / next date of inspection	Date of inspection	Inspector / Certifier	Status	Validity / next date of inspection
							<i>Findings / reservations / limitations</i>				<i>Findings / reservations / limitations</i>			
1														
2														
3														
4														
5														
6														
7														