MINISTRY OF ENERGY
REPUBLIC OF GHANA

HEALTH, SAFETY, SECURITY AND ENVIRONMENT (HSSE)

MANUAL
FOR ENERGY SECTOR ORGANISATIONS

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FOREWORD

Ghana's effort to develop its energy infrastructure and services with the view to meeting local demand and for export is predominantly based on the competences of the professionals in the sector. This makes it imperative for the Ministry to develop policies and programmes that aim to encourage capacity building through training and coaching.

Current programmes by our Regulators, namely, Energy Commission, National Petroleum Authority and Petroleum Commission, to train service providers in the value chain and help improve on their competences are good and very supportive of Government's policies on capacity building.

The Ministry however views development of competences in the Health, Safety, Security and Environment (HSSE) facet as an exercise that should comply with an accepted policy direction. In that case, this exercise of comprehensively addressing HSSE issues in the energy sector with this manual will help put the Ministry, Regulators and service providers on the same page for the purposes of understanding the issues and ensuring compliance to the requirements of this manual.

I believe the Regulators will support the service providers to establish programmes and protocols for meeting the requirements of this manual. I will strongly urge the Regulators to recognize and provide incentives to service providers who make adequate resources available to support programmes premised on this manual.

I will therefore conclude with the advice that Regulators should come up with key performance indicators (KPIs) for the service providers to help them assess the value of compliance to this manual in the bottom line assessments.

My only note of caution is that users of this manual should consider it as a minimum requirement and not necessarily a sufficient condition in addressing all HSSE issues in the energy sector. Users should note that HSSE is a line responsibility and hence people cannot be absolved from accountability with the mere excuse of compliance to this manual.

I wish to thank all the people who have spent their time and effort to come up with this manual and to the Ghana Oil and Gas for Inclusive Growth (GOGIG) Programme which is funded by UK aid, for the technical assistance and logistical support for the workshops that brought up this manual.

JOHN-PETER AMEWU
MINISTER OF ENERGY

1.0 INTRODUCTION

1.1 BACKGROUND

The Ministry of Energy considers promotion of sound and sustainable health, safety, security and environmental practices in the development of regulations, standards and procedures for the energy industry in ensuring that there is minimal negative impact of energy sector activities on people, property, environment and national reputation.

To attain the above objectives the Ministry in 2018 completed the final draft Health, Safety, Security and Environment Policy for the energy sector, as part of its mandate of formulating energy sector policies.

On March 13, 2018, the Ministry also inaugurated a Multi-Stakeholder Working Group (MSWG) comprising relevant Ministries, Departments and Agencies (MDAs), energy industry players, academic and vocational institutions to develop a system to identify assess and mitigate risks associated with energy sector operations.

A Memorandum of Understanding on Incident Investigation with relevant MMDAs has also been developed to guide incident investigation in the sector and monitoring of mitigation measures implementation.

1.2 OBJECTIVES

The overall objective of this manual is to ensure that companies in the energy sector have laid down minimum requirements to guide them in the development of their respective operational

procedures and processes in managing health, safety, security and environment issues.

1.3 CONTENTS OF THE MANUAL

The Manual is divided into four sections: HSSE Management System, Standard Operating Procedures (SOPs), Incident Notification and Investigation and Record Retention Standard.

The section on HSSE Management System provides the tools needed to implement a fit for purpose Management System to translate a company's HSSE targets into reality.

Standard Operating Procedures (SOPs) are a basic requirement in ensuring consistency in the day to day operations of a company or facility. It provides a structure for effectively undertaking a repetitive activity.

The Incident Notification and Investigation section of this manual provides a system to ensure adequate notification, incident investigation and the reporting of investigation results.

The Records Retention section of this manual details the retention period for documents relating to HSSE management in an organization. The management of the records, especially its retention, is vital in ensuring compliance and meeting audit and other requirements.

1.4 DEVELOPMENT OF THE MANUAL

The manual draw on existing laws, industry standards and input from players in the Petroleum and Power sub sectors. There were inputs from local and international consultants and HSSE practitioners. A multi stakeholder group, drawn from relevant

stakeholders held several workshops to develop and review the Manual.

1.5 BENEFICIARIES

Industry players and regulators.

1.6 FUNCTION AND SCOPE

The manual provides the minimum requirements for HSSE Management System and Standard Operating Procedures (SOPs) development, Incident Notification and Investigation procedures and Record Retention. The manual also serves as an advisory document to the regulators.

1.7 MANUAL REVIEW

The manual is intended to be a living, adaptive document, responsive to demands, trends and changes in the energy sector. The manual will therefore be reviewed by the Ministry of Energy in consultation with relevant parties including industry.

2.0 HEALTH, SAFETY, SECURITY AND ENVIRONMENT (HSSE) MANAGEMENT SYSTEM

2.1 CONTEXT

This Chapter provides a roadmap for creating a common foundation for Health, Safety, Security and Environment (HSSE) excellence in Energy Sector Organisations.

The document outlines the recommended core components of the HSSE Management Programme and identifies the systems, roles and responsibilities necessary to achieve HSSE excellence in all Energy Sector Organisations of Ministry of Energy.

The document meets the Legal Requirements of the Republic of Ghana and also embraces the Standard Requirements of global best practices in HSSE.

2.1.1 PURPOSE

To ensure that Energy Sector Organisations have a structured approach to achieving HSSE targets. The HSSE Management System also sets out to ensure the fulfilment of legal requirements and other requirements, with the ultimate aim of continual improvement

2.1.2 SCOPE

This procedure shall apply to all Energy Sector Organisations' operations, contractors, sub-contractors and visitors.

2.2 HSSE ROLES AND ACCOUNTABILITIES

The purpose of this system is to help ensure that the employer has developed the roles and responsibilities required to effectively achieve the organisation's HSSE performance. The employer is also to ensure that all employees are clear on their accountabilities related to achieving HSSE performance excellence in their respective organisations.

2.3 HSSE LEADERSHIP SYSTEM

The purpose of the HSSE Leadership system is to reinforce safe, interdependent work practices of people at work every day.

This can be achieved through:

i. Establishing, implementing and maintaining goals and targets relevant to all levels within the organisation consistent with the Organisation's HSSE Policy.
ii. Leadership having an overall responsibility and accountability on HSSE issues
iii. Leadership setting HSSE Policy and related objectives which shall include;
    a) Management's commitment to provision of resources
    b) Commitment to legal compliance
    c) Commitment to prevent injury and minimize pollution
    d) Commitment to continual improvement
iv. Leadership ensuring that there are availability of resources to implement HSSE Management System.
v. Developing, leading and promoting a good HSSE culture.

2.4 COMMUNICATION, CONSULTATION AND PARTICIPATION OF WORKERS

To ensure that the necessary communication, consultation and participation are achieved, Energy Sector Organisations shall:

i. Establish mechanisms for documented formal internal and external communication.

ii. Create mechanisms for the involvement of all levels in the organisation for hazard identification, risk assessment and determination of controls.

iii. Establish mechanisms, time, training and resources for consultation and participation

2.5 HAZARD IDENTIFICATION AND RISK ASSESSMENT SYSTEM

This system shall establish a systematic approach to Hazard Identification, Risk Assessment and Risk Control at all Energy Sector Organisations.

2.6 LEGAL REQUIREMENTS AND OTHER REQUIREMENTS

The purpose of this is to establish a system to effectively comply with legal requirements and other requirements both locally and international, as well as other requirements applicable to the organisation.

This can be achieved through establishing a procedure for HSSE Legal Requirements and Other Requirements by:

i. Identifying and complying with legal requirements and other requirements applicable to the organisation
ii. Keeping the information up-to-date
iii. Communicating relevant legal requirements and other requirements information to persons working for and on behalf of the organisation
iv. Implementing measures to ensure that legal requirements and other requirements are met by the organisation.

2.7 HSSE MEETINGS SYSTEM

The purpose of this system is to ensure specific fora are available for productive interaction between employees for the purpose of helping achieve HSSE performance objectives.

2.8 MANAGEMENT OF CHANGE SYSTEM

All Energy Sector Organisations shall be committed to appropriately managing change, in order to control potential HSSE impacts while ensuring the safe and efficient operation of the respective work areas.

This system addresses temporary or permanent modifications to buildings, structures, equipment, activities, operations, processes, legal requirements and the initiation of other projects (engineering, automation, and information technology).

The establishment of the procedure for managing risks associated with change should consider the following:

i. Changes and proposed changes in the organisation
ii. Identify all hazards associated with the change
iii. Provide the necessary training to employees

iv. Applicable legal obligations relating to risk assessment and implementation of necessary controls

2.9 CONTRACTOR HSSE MANAGEMENT SYSTEM

The objective of this system is to establish the expected HSSE practices, to protect the environment as well as the Health, Safety, Security and Environment of all individuals working in the respective energy sector organisations.

Each energy sector organisation shall establish a system for contractor management to include:

i. Prequalification process for award of contracts

ii. Monitoring and evaluation of performance during and after execution of contracts

2.10 HSSE INDUCTION SYSTEM

The purpose of this system is to ensure that, from the first day of their employment in the Organisation all employees shall have a good knowledge of the risks and risk management practices in their primary work area.

Additionally, each Energy Sector Organisation shall establish induction systems for Contractors and visitors.

2.11 EMERGENCY PREPAREDNESS AND RESPONSE SYSTEM

All Energy Sector Organisations shall assess their Emergency preparedness and develop site specific emergency response plans to ensure that each Sector Organisation is well prepared to respond to emergency situations.

This can be achieved by:

i. Identifying the potential for emergency situations

ii. Establishing preparedness and response plans taking into consideration personnel training, equipment and the organisation's capability.

iii. Establishing communication criteria

Energy Sector Organisations shall define Emergencies that are beyond the capacity and capability of the site resources and describe it as Crisis Management.

2.12 CRISIS MANAGEMENT SYSTEM

The purpose of Crisis Management System is to ensure that Energy Sector Organisations establish requirements to effectively deal with emergency situations beyond the capacity and capability of the site resources. This is to ensure the protection of employees, properties, immediate communities and a timely return to normal operations.

2.13 HSSE PERFORMANCE MONITORING AND REPORTING SYSTEM

The objective of the HSSE performance reporting system is to clearly define the qualitative and/or quantitative measures, objectives, and lagging/leading indicators which every Energy Sector Organisation shall document on a regular basis.

To achieve this, each energy sector organisation shall:

i. Comply with applicable regulations and industry standards.

ii. Develop a procedure and associated documents including standards and codes and organisational objectives.

iii. Define what are supposed to be monitored and measured.

iv. Develop KPIs for monitoring.

v. Develop action plans for monitoring results.

2.14 HSSE AUDIT SYSTEM

The purpose of this system is to ensure that all Energy Sector Organisations establish a process to assess activities related to the Organisations' HSSE Policy, Management Systems, Standards, Programmes and Procedures.

The audit shall be able to determine if the Management System:

i. conforms to planned arrangements for HSSE management;
ii. has been properly implemented and is maintained;
iii. is effective in meeting the organisation's policy and objectives.

2.15 COMPETENCE TRAINING AND AWARENESS

To ensure that employees are fit to carry out their daily functions in a safe, secure and environmentally friendly manner, adequate training shall be provided when necessary.

Energy Sector Organisations shall:

i. Develop job specific training programs across all levels in the organisation

ii. Develop awareness programmes taking into consideration the risk involved in each individuals capabilities and limitation.

2.16 HSSE INCIDENT REPORTING AND INVESTIGATION MANAGEMENT SYSTEM

The capacity of every Organisation to mitigate environmental impacts and prevent accidental injury and loss is directly related to its capability to analyze events, identify hazards and control risks.

This is accomplished by thoroughly gathering all the facts that lead to an incident, determining the immediate and root causes and implementing corrective and preventive actions which effectively prevent a recurrence.

The purpose of this system is to effectively manage HSSE Incidents, which may occur at Energy Sector Organisations' facilities or have the ability to impact the respective facilities and operations. To achieve this, Energy Sector Organisations shall:

i. Develop a procedure for Incident Management taking into account reporting processes, database for incidents etc.

ii. Set criteria for incident investigations and reporting

iii. Set a system for implementing recommendations to prevent recurrence.

2.17 CORRECTIVE AND PREVENTIVE ACTION SYSTEM

The purpose of this system is to help ensure that necessary actions are taken to eliminate or control risks or potential risks within all Energy Sector Organisations. This can be achieved by undertaking the following:

i. Determine opportunities for improvement and implement action plans to achieve intended outcomes.

ii. React to nonconformities identified and implement corrective action plans to deal with the nonconformities.

2.18 HSSE MANAGEMENT REVIEW SYSTEM

The purpose of this system is to ensure that HSSE Management Systems, related policies, objectives, programmes, procedures, performance or associated systems are reviewed at least once a year to ensure the effectiveness, suitability or adequacy.

Management review shall include:

i. Plan periodic review of HSSE Management system to ensure continuing suitability.

ii. Set criteria for the reviews that shall include:

   a) The status of actions from previous management reviews.

   b) Changes in risk and opportunities.

   c) Extent to which HSSE objectives have been achieved.

   d) Resource adequacy.

   e) Opportunities for continual improvement.

2.19 PERSONAL PROTECTIVE EQUIPMENT SYSTEM

The purpose of this system is to establish requirements for the selection, application, use and care of Personal Protective Equipment to ensure the risk of injury or illness to individuals is effectively managed.

2.20 HOUSEKEEPING SYSTEM

Each Energy Sector Organisation shall develop and implement the 5S System as the basis for housekeeping in each Organisation.

The 5S System stands for:

i. Sort – take out unnecessary items & dispose
ii. Set in Order – systematically arrange items in good order for use
iii. Shine – clean your workplace completely
iv. Standardize – maintain a high standard of housekeeping
v. Sustain – redo simultaneously without being told or ordered to do

Each S represents one part of a five-step process that can improve the overall function of a business.

2.21 HAZARDOUS SUBSTANCES MANAGEMENT SYSTEM

This system outlines the requirements to be followed in the selection, purchase, packaging, transport, storage, use and disposal of hazardous substances in order to minimize their risk to human health and environment and to ensure compliance with Republic of Ghana regulatory requirements.

This system applies to all hazardous substances used in Energy Sector Organisations' work areas.

2.22 PERMIT TO WORK SYSTEM

The use of work permits to identify and help control HSSE hazards and risks in routine and non-routine work is an effective management tool.

The purpose of this system is to establish permit to work or work permit requirements to ensure the health and safety of all personnel, environment and properties of Organisations, while performing activities with significant potential risks and impacts.

2.23 WORKPLACE INSPECTION SYSTEM

The purpose of this system is to ensure workplace hazards, potential hazards or risks are effectively identified so that appropriate and timely actions can proactively be taken.

2.24 HAZARDOUS ENERGY CONTROL / LOCKOUT & TAGOUT SYSTEM

The purpose of this system is to prevent injury or damage caused by the unexpected energization or start-up of machinery or equipment or the unexpected release of an energy source.

2.25 CONFINED SPACE ENTRY SYSTEM

Confined Spaces, such as tanks, pits, silos, dust collection system, ship hatches/holds, can be dangerous because of the accumulation of hazardous gas, vapor, dust or fumes, potentially resulting in explosion, asphyxiation, toxic atmosphere, engulfment or other health and safety hazards.

The purpose of this system is to establish the requirements for the identification, management and control of Confined Space hazards.

2.26 LIFTING EQUIPMENT SYSTEM

This system shall outline Energy Sector Organisations' practices and requirements for the selection, purchase, operation, management, sale and decommissioning of lifting equipment/devises.

2.27 MOBILE EQUIPMENT AND PEDESTRIANS SAFETY SYSTEM

Mobile equipment has the potential to be the source of serious injury and significant property and product damage

The purpose of this system is to establish requirements for the selection, purchase, operation, management, sale and decommissioning of mobile equipment and safe operating practices including pedestrians for all facilities.

2.28 MACHINE SAFEGUARDING SYSTEM

The purpose of this system is to establish requirements for machine safeguarding. This is to eliminate the possibility of an injury or property damage due to any moving part of machinery or equipment, which may result from ineffective guarding.

2.29 WORK AT HEIGHT AND FALL PROTECTION SYSTEM

The use of fall protection systems and devices wherever there is a potential of falls from height is a mandatory injury prevention measure.

The purpose of this system is to establish requirements for fall protection and working at heights to prevent the occurrence of fall related injuries and/or fatalities.

2.30 HOT WORK SYSTEM

Potential health, safety and property damage hazards result from fumes, gases, sparks, hot-metal and radiant energy produced during hot work (eg. welding, grinding, soldering, brazing, and cutting)

The purpose of this system is to establish requirements to control the risk of ignition from hot work in areas with potential fire hazards.

2.31 FIRE LOSS PREVENTION SYSTEM

The purpose of this System is to operate and maintain all work environment of Energy Sector Organisations in accordance with the appropriate insurance underwriters risk standards, regulatory requirements and recognized loss prevention standards for fire and explosion prevention.

2.32 MOLTEN METAL EXPLOSION SYSTEM

The primary causes of molten metal explosion are contact between molten metal and water, moisture or reactive chemicals.

The purpose of this system is to establish a molten metal explosion prevention system for the Aluminium Smelter to provide appropriate procedures, and prevention guidelines for all employees in any job situation involving molten metal operations and ensure all personnel working at the Smelter fully understand how a molten metal explosion can occur, as well as the consequences of a molten metal explosion.

2.33 HEARING CONSERVATION AND NOISE ABATEMENT SYSTEM

Energy Sector Organisations shall commit to protect the hearing of all employees and to ensure that a proactive hearing conservation and noise abatement programme is implemented to prevent occupational hearing loss.

The purpose of this system is to describe the systematic approach to hearing conservation and noise abatement.

2.34 RESPIRATORY PROTECTION SYSTEM

Due to the nature of operations, Employees maybe exposed to airborne contaminants that may cause acute or chronic health effects.

The purpose of this system is to describe the required respiratory protection that supports Organisations' aim to safeguard the health of all employees.

2.35 OCCUPATIONAL HEALTH SYSTEM

To effectively describe the principles of Energy Sector Organisations' occupational health andw ellbeing programme, company specific occupational health policy shall be developed and implemented in each Organisation.

2.36 MEDICAL EVALUATION SYSTEM

All Potential Employees shall be required to undergo a pre-Placement medical examination. All offers of employment shall be made subject to satisfactory medical fitness with respect to the role and tasks, to ensure that not only are employees fit for the job but also the job is fit for the employee. Additionally, regular employees are required to undergo periodic medical examinations to ensure that they are fit for the job.

The purpose of this system is to ensure that potential employees and Regular Employees have the health characteristics required for the safe performance of their tasks.

2.37 INJURY/ILLNESS TREATMENT AND REHABILITATION SYSTEM

Judicious qualitative treatment is critical to the successful management of injury and illness. The timely rehabilitation of employees using effective work accommodation processes will reduce the impact of injury and illness on the operation.

The purpose of this system is to describe the systematic approach to managing employees who through injury or illness are not fully capable to carry out their assigned tasks.

2.38 HEALTH MONITORING / SURVEILLANCE SYSTEM

Energy Sector Organisations shall be committed to providing appropriate health surveillance and monitoring based on an assessment of the potential risk of harm through work activity and historical industry information.

The purpose of this system is to describe the controls and exposure monitoring requirements to ensure occupational or environmental health of employees is not adversely impacted.

2.39 MEDICAL RECORDS SYSTEM

Energy Sector Organisations shall conduct a variety of medical examinations including pre-placement, periodic, return-to-work, fitness-for-work and post-contract evaluations of personnel's health that are pertinent to job tasks and exposures to chemical, physical, psychological, biological and ergonomic factors.

The purpose of this system is to describe the process for managing medical records to ensure efficient, controlled access to confidential medical information.

2.40 HEALTH AWARENESS AND PROMOTION SYSTEM

Structured education and training of all employees and relevant stakeholders on occupational and environmental health issues creates awareness and understanding of the benefits of good health.

The purpose of this system is to describe the methodology of educating all employees in achieving and sustaining a healthy life style and wellbeing.

2.41 WASTE MANAGEMENT

To effectively manage various types of waste resulting from operations from Energy Sector Organisations, each Organisation shall develop and implement a Waste Management Strategy to effectively manage wastes generated at all facilities. This strategy shall provide the framework for waste management and shall be based on the "Five (5) R" principles:

i. Reduction or avoidance of waste at the outset
ii. Reuse
iii. Recycling
iv. Resource recovery, and
v. Responsible disposal.

2.42 WASTE CHARACTERIZATION AND CLASSIFICATION SYSTEM

This purpose of this system is to establish a clear process for the identification and classification of all waste and waste streams generated at the respective Energy Sector Organisation.

2.43 WASTE HANDLING SYSTEM

This system shall outline requirements to ensure that effective waste management practices are employed (Elimination, Reduction, Segregation, Storage, Reuse, Recycling, Recover, Transportation and Responsible Disposal).

2.44 WASTE REUSE AND RECYCLING SYSTEM

This system shall ensure that an effective waste re-use and recycling process relative to the identified waste streams, which supports continual improvement and serves to support regulatory requirements.

The purpose of this system is to describe the process and management actions with respect to the effective re-use and recycling of waste materials at the respective Organisations.

2.45 GREENHOUSE GAS MANAGEMENT SYSTEM

The management and reporting of greenhouse gases is of increasing importance in the context of climate change and by extension Sustainable Development Goals, regulatory policies and emissions tracking.

This system outlines the requirements regarding the management of greenhouse gas emissions, to ensure that emissions of these gases are at relatively low levels, which comply with EPA Laws and Regulations, including the relevant international standards.

2.46 ENVIRONMENT MONITORING SYSTEM

This system shall describe the systematic analysis, requirements of operations and support processes to ensure environmental responsibility and adherence to applicable permit and license requirements.

2.47 RESOURCE MANAGEMENT SYSTEM

A systematic approach to the management of resources, such as energy, water and raw materials, which minimizes adverse environmental impacts, material losses and operational costs.

This system shall outline the systematic approach to initiatives to manage the use of resources, such as energy, water, and raw materials.

2.48 SOIL AND GROUNDWATER MANAGEMENT SYSTEM

Soil and ground water contamination may present a risk of adverse effects on human health, the environment and legal liability. Areas presenting such risks must be identified, classified and managed to ensure effective management.

The purpose of this programme is to define the appropriate environmental management practices for soil and ground water protection in areas owned and/or operated by Energy Sector Organisations.

2.49 SPILL PREVENTION AND RESPONSE SYSTEM

This system shall outline the mechanism that Energy Sector Organisations shall follow to manage accidental spillages from operational activities including transportation.

This system shall define the environmental management practices established to eliminate the risk of unintentional liquid and solid hazardous chemical spillages.

2.50 WATER MANAGEMENT SYSTEM

This system outlines the conservation and management aspects with respect to the quantity and quality of water used at all operation sites of Energy Sector Organisations. This is to facilitate efficient recycling, reuse and appropriate disposal of treated water with a view to minimize the Organisation's impact on water resources.

2.51 ENVIRONMENTAL RELEASES MANAGEMENT SYSTEM

This system outlines Energy Sector Organisations' systematic approach to the management of environmental releases to air and water (discharges of effluents) which result from Organisational activities, processes, products or services in order to minimize actual or potential environmental impacts, material losses, and operational costs.

2.52 CALIBRATION OF ENVIRONMENTAL SENSITIVE INSTRUMENTS SYSTEM

Accurate Monitoring and Sampling is critical to support the effective management of environment and health issues.

This system shall describe the structure and methodology for calibration of "Environmental and Health Sensitive" Instruments used for monitoring the workplace and external environment.

2.53 SECURITY MANAGEMENT SYSTEM

This system shall describe the security-vulnerability analysis of all Energy Sector Organisations.

The analysis shall include:

i. Assessing the threat
ii. Vulnerability
iii. Target Attractiveness
iv. Likelihood of adversary success
v. Countermeasures
vi. Emergency Response in the event that an event does occur.

2.54 RECORD RETENTION STANDARD SYSTEM

The purpose of this is to describe systems to archive HSSE documents, retrieval of same and the length of period to archive the documents.

3.0 STANDARD OPERATING PROCEDURE (SOP)

3.1 CONTEXT

Effective HSSE management is based on a common understanding of the workplace hazards and the establishment of appropriate Standard Operating Procedures (SOPs) to ensure the work is consistently done the proper way.

Developing SOPs shall be the responsibility of line management. This shall involve workers, subject matter experts and supervisors. It is important that the personnel who actually perform the work also have an opportunity to contribute their ideas. They may have first-hand knowledge about how the work can be done better and their participation will help them understand the importance of following (SOPs).

3.1.1 PURPOSE

The purpose of developing SOPs is to provide a step by step instructions that will ensure safe work environment.

3.1.2 SCOPE

This procedure shall apply to all Energy Sector Organisations' operations, Contractors, sub-contractors and visitors.

3.2 SOP DEVELOPMENT PROCEDURE

In the development of effective Standard Operating Procedures (SOPs) there are four basic steps:

3.2.1 SELECTING THE WORK (TASK/JOB) TO BE ANALYSED

Work (tasks/jobs) should be prioritized to ensure the most critical are identified and analysed first. Job Hazard Analysis

(JHA) needs to be performed for jobs that fall under the following:

i. Known high risk work
ii. New and/or modified work
iii. Infrequently performed work
iv. Work which has potential for severe injuries
v. Work with high injury frequency and severity
vi. Routine Work

3.2.2 BREAKING THE WORK INTO STEPS

Steps should not be too general as specific hazards may be overlooked. However, care must be taken to prevent the steps from becoming too detailed. As a general rule most work processes can be described between 4 to 10 steps. If more steps seem to be required, break the work into two or more work processes or the combination of some steps should be considered.

Keep the steps in the correct order.

Breaking the work into steps is usually done by observing a person performing the work. The person performing the work should be an experienced personnel, and perform the work under normal conditions. The observer should explain to the personnel, the reason for the observation, and make it clear that the work process, not the individual, is being observed.

The breakdown of the work process into steps should be discussed with knowledgeable persons and the individual completing the process to ensure no steps have been missed.

3.2.3 IDENTIFYING POTENTIAL HAZARDS

The Ministry of Energy Risk Assessment Matrix, Figure 1 and Table 1 – Sample SOP Form, are used to assess the hazards associated with particular work processes and identify possible controls. The Standard Operating Procedure (SOP) process systematically breaks down the work into its basic components. This allows the hazards at each step to be thoroughly evaluated to identify actions or procedures needed to eliminate or control the hazards.

Risk Assessment aims at:

i. Identifying the hazards posing a threat to HSSE and the associated risks,
ii. Identifying the consequence/severity of each hazard scenario,
iii. Identifying measures through which hazards can be eliminated, or minimized or controlled,
iv. Identification of unacceptable risks,
v. The selection of means of controlling or eliminating unacceptable risks.

NB: At this stage, pay close attention to the potential hazards and **NOT** on the solutions.

All participants in the Risk Assessment process should review the identified hazards and conclusions.

3.2.4 DETERMINING CONTROL ACTIONS/MEASURES

HSSE hazards can be controlled:

i. At the source of the hazard,
ii. Along the path between the hazard and a person/property/environment,
iii. At the person/property/environment.

The first priority is to eliminate the hazard from the process entirely, or to control it at its source (See Figure 2). Controlling the hazard before it reaches the person/property/environment is the next most preferred method.

Control at the person/property/environment is used where the hazard cannot be eliminated or blocked. When listing preventive measures, be precise, and avoid statements such as 'use caution' or 'be careful'.

3.3 APPLYING THE STANDARD OPERATING PROCEDURE (SOP)

The conclusions of the Risk Analyses, using Ministry of Energy Risk Assessment Matrix (Figure 1), are then captured in the form of a Standard Operating Procedure (SOP) in Table 1.

The use of SOPs ensures that every person who performs a work process is provided with the same instructions.

Personnel should be conversant with the SOP prior to performing the work process.

This way, every person can be given a standard set of instructions about how to avoid exposure to the identified hazards and complete the work in a safe and efficient manner.

Organisations shall establish a procedure that defines frequency of reviews of the SOPs to take account of new factors that may have been introduced into the process.

SOPs are fundamental in training programs and new employee induction/orientation. They are also helpful during inspections or HSSE event investigations.

3.4 MINIMUM REQUIREMENTS IN A STANDARD OPERATING PROCEDURE

1. Ministry of Energy Risk Assessment Matrix (Figure 1) shall be used as a guide to determine which jobs require SOP.
2. Respective Regulators shall ensure that all service providers permitted or licensed to operate within their jurisdiction should have SOPs in place.
3. SOP exists for each major / high risk job in Energy Sector Organisations.
4. SOP represents the standard for performing jobs rather than the guidelines for performing jobs.
5. Reviews shall be conducted on applicable SOPs for all employees on a periodic basis.
6. SOP reviews shall be conducted prior to job assignment for employees who have not performed a major /high risk job within six months.
7. SOPs are readily available to all employees.
8. Each Energy Sector Organisation shall put in place a system to ensure compliance to SOPs. SOPs shall define responsibilities.
9. SOPs shall have a clause and/or line item to define a review and, if necessary, revision according to some established frequency.

10. Review/revision of SOPs shall include input from employees.
11. The procedure shall include the development of SOPs for newly created major/high risk jobs prior to job start - up.
12. Procedures developed for SOPs shall define training requirements. The training requirement shall include a learning verification, thus testing the trainee's competence.
13. Training Requirement of any SOP shall include documentation of training and retention of records, as per the Record Retention Standard. (see Chapter 5 of this Manual).
14. The Organisation's procedure shall require that:
    i. Internal audits shall be performed at a specified frequency.
    ii. Internal audits are documented.
    iii. Internal audit deficiencies shall be corrected per schedule.
    iv. Internal audit data are tracked/trended.
    v. Internal audit results are managed to drive continuous improvement.

STANDARD OPERATING PROCEDURE				
Revision Number				
Name of Organisation				
Department				
Job/Task Title				
Job/Task Location				
SOP Prepared By/Date				
SOP Reviewed By/Date				
SOP Approved By/Date				
SOP No.				
Standard PPE Requirements				
Sequence of Job Steps	Potential Hazards	Risk Score (Before mitigation)	Control Action	Risk Score (after mitigation)

Table 1 – Sample SOP Form for conducting JHA

Figure 1 – Ministry of Energy Risk Assessment Matrix

Risk Assessment Matrix

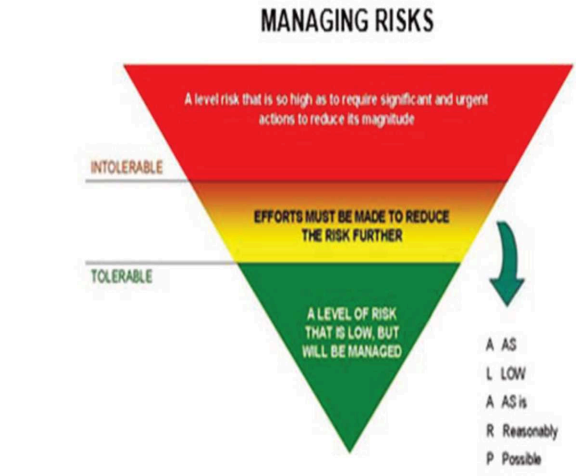
SEVERITY	CONSEQUENCES				INCREASING LIKELIHOOD				
	People	Assets	Environment	Reputation	A	B	C	D	E
					Never heard of in the Industry	Heard of in the Industry	Has happened in our Organisation or more than once per year in the Industry	Has happened at the Location or more than once per year in our Organisation	Has happened more than once per year at the Location
0	No injury or health effect	No damage	No effect	No impact					
1	Slight injury or health effect	Slight damage	Slight effect	Slight impact					
2	Minor injury or health effect	Minor damage	Minor effect	Minor impact					
3	Major injury or health effect	Moderate damage	Moderate effect	Moderate impact					
4	PTD* or up to 3 fatalities	Major damage	Major effect	Major impact					
5	More than 3 fatalities	Massive damage	Massive effect	Massive impact					

Continuous Improvements

Control to ALARP

Tolerability to be Endorsed by Management

* Permanent Total Disability



THE FOLLOWING CONTORL OPTION MUST BE CONSIDERED AND MAY BE APPLIED INDIVIDUALLY OR IN COMBINATION		
1	**ELIMINATION**- Complete removal of the hazard	Most Effective
2	**SUBSTITUTIO**- Replacing the material or process with a less hazardous one	
3	**REDESIGN**- Redesign the equipment or the process **SEPARATION**- Isolation of the hazard by guarding or enclosing it	
4	**ADMINISTRATION**- Providing controls such as training or procedures (SOPs)	
5	**PERSONAL PRETECTIVE EQUIPMENT**- Use of PPE where other controls are not practical	Least Effective

Figure 2 – Hierarchy of Hazard/Risk Control

4.0 INCIDENT NOTIFICATION AND INVESTIGATION

4.1 CONTEXT

This Chapter provides a roadmap for incident notification and investigation requirements. It assigns roles and responsibilities to strengthen compliance to legal requirements and other requirements as well as international best practices with regards to incident notification and investigation.

4.1.1 PURPOSE

The purpose of this Procedure is to establish a system for the classification, notification, investigation, analysis, control and communication of all reported occupational illnesses, and incidents/accidents. This may include but not limited to the following:

i. HSSE incidents (injuries/illnesses, property damage, fire/explosion, environmental damage, etc.) and near misses
ii. Operational incident
iii. Business interruption
iv. Security Incident

4.1.2 SCOPE

This procedure shall apply to all Energy Sector Organisations in the event of an incident involving, employees, visitors, Contractors' and vendors/suppliers on the organisations' premises.

Indirectly supervised Contractor companies shall jointly investigate incident with the host organisation.

4.2 ROLES AND RESPONSIBILITIES

The roles and responsibilities within an Energy Sector Organisation in incident response and investigation are outlined in the table below:

Table 2 – Responsible Party and Responsibilities

Responsible Party	Responsibilities
Management	Notifies External Authorities as specified by this procedure
Line Management	Notify, Investigate, and Report any incident in compliance with the requirements of this procedure
	Ensures personnel under their supervision, comply with the requirements of this procedure.
Employee	Notifies any incident, including near misses and unsafe acts/conditions, in accordance with the requirements of this procedure
Contractor	Ensures that all contractor employees adhere to the requirements of this procedure
Investigation Team Leader	Ensures that the Investigation Team Members are selected and have the needed resources and expertise
	Ensures that the investigations identify systemic root causes and Corrective and Preventive Actions (CAPA)
	Ensures technical accuracy of the incident investigation report
	Makes final decision on Incident Classification

HSSE Department	Monitors the implementation of this procedure
	Serves as the Custodian of this Procedure

4.3 INCIDENT CLASSIFICATION

Incidents have been classified into 3 levels depending on severity: Level 3, Level 2 and Level 1. It has also rated consequences on: People, Environment, Asset and Reputation. (See Table 3).

Incident level and consequences are very important to determine:

- Level of notification
- Investigation and reporting requirements

Table 3: Matrix showing Levels of Incidents and Consequences

Incident Level	People (Injury/illness)	Asset (Property damage - actual loss)	Environment	Reputation
Level 3	• Fatality • LTI – permanent total disability • Incident or near miss with the potential to cause fatality or permanent total disability	Major Damage (Loss ≥ USD 100,000)	Major Effect (Resulting in massive damage to ecosystem, natural resources, or human health)	Major Impact (Creating crisis situation)
Level 2	• LTI – temporary disability • Medical treatment case • Restricted work case • Incident or near miss with potential to cause temporary disability	Moderate Damage (Loss USD 25,000 – 100,000)	Moderate Effect (Resulting in minor damage to ecosystem, natural resources, or human health)	Moderate Impact (Potentially creating crisis situation)
Level 1	• First aid case • Low potential near miss	Minor Damage (Loss ≤ USD 25,000)	Minor Effect (Potential to cause damage to ecosystem, natural resources, or human health)	Minor Impact

4.4 INCIDENT NOTIFICATION

4.4.1 INTERNAL NOTIFICATION

Internal Notification is the communication of incident within the same organisation. When an incident occurs there shall be an internal notification through the appropriate channel peculiar to the organisation.

4.4.2 EXTERNAL NOTIFICATION

Some incidents require immediate notification to external organisations, Regulators and Agencies. This is done to enlist support in emergency and/or crisis situation.

Energy Sector Organisations shall ensure that these communications happen.

Table 4 provides detail explanation of external notification requirements of incidents.

Table 4 – External Notification of Incidents

Type of Incident	External Reporting Organisation	Time Frame	Responsibility
Fatality	Police, Labour Dept., DFI, respective Regulators, MoEn	Within 24 hours	Head of Organisation or Delegated Authority
Lost Time Injuries	Labour Dept., DFI, respective Regulators, MoEn	Within 3 working days	Head of Organisation or Delegated Authority

Fire or Explosion	GNFS, Police, Labour Dept., DFI, NADMO, National Security, respective Regulators and MoEn	Immediately	Head of Organisation or Delegated Authority,
Occupational Diseases	Labour Dept, DFI, GHS, respective Regulators	Within 3 working days	Head of Organisation or Delegated Authority
Environmental incidents	EPA, Labour Dept, DFI, respective Regulators	Immediately	Head of Organisation or Delegated Authority
Property damage ≥ USD25,000	Labour Dept, DFI, respective Regulators	Within 3 working days	Head of Organisation or Delegated Authority

4.5 INCIDENT INVESTIGATION REQUIREMENTS

Incident Classification criteria shall be used to determine the level of investigation required for various types of incidents based on the probable consequences of the incident. Four types of consequences are used in the criteria: People, Environment, Asset and Reputation. Additionally, incidents are classified into one of three levels based on severity, in the order of Level 1, Level 2 and Level 3.

Incident investigation shall be conducted according to requirements based on Table 5. The final report shall be logged in the Incident Management Data Base, owned and operated by the Ministry of Energy.

Table 5 - Matrix showing Incident Investigation Requirements and Processes

	Level 1	Level 2	Level 3
Accountable person	Supervisor or any authorized person (according to Organisational Structure)	Sectional Head or Middle Level Manager	Head of Organisation
Investigation Team Leader	Safety Committee member, Supervisor or authorized person	Sectional Head/Middle Level Manager or an independent person appointed by the CEO	Independent person , mandated by the responsible Sector Minister(s)
Investigation Team members	Supervisor Operator/ Technician Safety Committee Member (according to the Organisation Structure)	Supervisor Operator/ Technician Safety Manager/Officer/ Supervisor (according to the Organisation Structure)	Independent members mandated by the Minister for Energy CEO or Managing Director HSSE Manager/Officer / Supervisor

			Operation and Maintenance representatives
Investigation process	RCA & CAPA processes (as instituted by the Organisation)	RCA & CAPA processes (as instituted by the Organisation)	RCA & CAPA processes (per the Terms of Reference by the Minister for Energy)
RCA Tools	Any applicable RCA Tool, per the Organisation's choice. Examples are: Fish Bone, 5 Why, depending on complexity of the incident.		
Final Report	Incident Investigation Report		
Report completion	Up to 5 working Days (Report to Internal)	Up to 10 Working Days (Report to Internal and to MoEn)	Up to 20 Working Days (Report to Internal, relevant Regulators and to MoEn)
CAPA Completion	Up to One (1) Year (Report to Internal)	Up to Six (6) Months (Report to Internal and to MoEn)	Up to Three (3) Months (Report to Internal, relevant Regulators and to MoEn)

Note 1: Accountable person is that person responsible for the area and expected to undertake the Corrective and Preventive Actions (CAPA).

Note 2: Incident Investigation Report shall include incident notification (Table 6), incident investigation (Table 7), incident report and flow chart.

Note 3: Where the incident involves other sectors, the Minister for Energy shall collaborate with the relevant Authorities to constitute the investigation team.

4.6 TRAINING REQUIREMENTS

1. Energy Sector Organisations shall ensure that supervisors undergo training in Incident Investigation, Root Cause Analysis, and Reporting Process, at least once every two years.
2. Supervisors shall educate employees on the reasons for investigating incidents and encourage the reporting of all injuries, illnesses, equipment damages, near misses, significant risks and behaviour failures at least once a year. This can be done as part of their monthly safety meetings.
3. The competencies of participants in the training shall be verified after the training by the Training Facilitator.
4. HSSE Department shall liaise with Department Managers of newly hired Supervisors and potential Supervisors to organize training for the selected Employees once every year.

4.7 MANAGEMENT CONTROLS /DOCUMENTATION

1. Supervisors, Section Heads and Department Managers shall ensure the closure of Corrective and Preventive Actions (CAPA).

2. Department Managers shall conduct quarterly reviews of CAPA and analysis process to ensure the effectiveness of the Department's incident investigation process.
3. HSSE Department shall conduct quarterly reviews and analysis of CAPA of Incidents reports to establish trends of all root causes/causal factors for Employees' education/training. This information shall be communicated to Top Management of the Organisation.
4. Records on internal audits, reviews and analysis of the incident investigation processes and status of CAPA shall be retained in Incident Management Data Base, owned by Ministry of Energy, indefinitely.
5. Regulators shall send quarterly HSSE report to Ministry of Energy, and brought to the attention of the Head of HSSE.
6. Departments shall retain training records on incident investigation as per the organisation record retention procedure.
7. This incident investigation procedure shall be reviewed at least every three years or whenever applicable standards, regulations and/or situations change.

4.8 CLASSIFYING INJURY / ILLNESS CASES

4.8.1 LOST TIME CASES

An occupational injury/illness, which results in the employee being unable to work their next regularly, scheduled workday. It does not include those cases in which the lost time is limited to the balance of the shift (including contiguous overtime hours) on which the injury occurred.

4.8.2 RESTRICTED WORK CASES

An occupational injury/illness, which results in restrictions, or limitations, which affect the employee's ability to perform any essential function within normal duties. Employee's normal job duties include any tasks that the worker performs or may be expected to perform throughout the calendar year. If the employee would be expected to perform the activity that is restricted on any single day during the year, the case must be recorded as one involving restricted work activity.

These restrictions include:

i. The employee being assigned to another job on a temporary basis.
ii. The employee working at a permanent job less than full time.
iii. The employee working at permanently assigned job, but not being able to perform all the duties normally connected with it.

Note: Injuries and illnesses are not considered Restricted Work Cases unless they affect the employee beyond the day of the injury or onset of illness.

4.8.3 MEDICAL TREATMENT CASE

An occupational injury/illness, which is, not minor and requires treatment beyond first aid. It is normally administered by a physician or registered medical professional under the standing orders of a physician.

4.8.4 FIRST AID CASE

An occupational injury, which is minor and involves no treatment or one time treatment of scratches, cuts, first degree burns, splinters etc. First aid can be provided by a physician or registered medical professional.

4.8.5 RECORDABLE INJURY/ILLNESS

All personal injuries/illnesses caused by work, which have more severe consequences than first aid treatment (FAI)

4.9 DIFFERENCE BETWEEN MEDICAL TREATMENT AND FIRST AID CASES

The following Table lists common injuries and treatment procedures and differentiates between those, which should be considered First Aid, versus procedures and circumstances, which should be considered Medical Treatment.

FIRST AID CASE	MEDICAL TREATMENT CASE
Application of antiseptics on initial visit	Application of antiseptics during second or subsequent visits.
Treatment of first degree burns.	Treatment of second and third degree burns.
Application of bandages during first visit Use of elastic bandages during first visit	Use of sutures, butterfly adhesive or steri-strip dressings.
Removal of foreign bodies not embedded in the eye by irrigation.	Removal of foreign bodies embedded in the eye.
Uncomplicated removal of foreign bodies from	Removal of foreign bodies from wound if procedure is

wound by using tweezers.	complicated by depth, size or location.
Use of non-prescription medication and administration of single dose prescription medication during the first visit for minor injury or discomfort.	Use of prescription medication
Use of soaking therapy and compresses during first visit.	Use of soaking therapy and compresses during second or subsequent visits.
Use of heat or whirlpool therapy during first visit.	Use of heat or whirlpool during second or subsequent visits.
Oral fluid replacement and period of rest	Intravenous fluid replacement
Negative x-ray diagnosis	Positive x-ray diagnosis (fractures).
Observation of injury during first visit	Hospitalization for treatment
Application of ointments to prevent cracking or drying.	Cutting away dead skin (surgical debridement).
Removal to fresh air or administration of oxygen.	Chiropractic manipulations.
Administration of tetanus shots or boosters.	Application of a cast to immobilize sprains.

Table 6- Energy Sector Organisations: Sample Incident Notification Report Form

Date incident occurred:	*Time:*	*Report #:*
Date incident was reported:	*Time:*	

SECTION 1	*LOCATION OF INCIDENT*

Organisation: :

Dept. :

Section :

Equipment/system :

SECTION 2	*INCIDENT TYPE*	*Double click and checked*

Actual consequence

- ☐ *Injury/illness*
- ☐ *Fatality*
- ☐ *Property damage*
- ☐ *Environmental incident*
- ☐ *Traffic incident*
- ☐ *Quality incident*
- ☐ *Fire or explosion*
- ☐ *Operational disturbance*
- ☐ *Security*
- ☐ *Near miss*
- ☐ *Other (specify):*

Potential consequence

- ☐ *Fatality/Catastrophe*
- ☐ *Loss ≥ USD 100,000*
- ☐ *LTI, perm. disability*
- ☐ *Loss USD 25,000 – 100,000*
- ☐ *LTI, temp. disability*
- ☐ *Loss ≤ USD 25,000*
- ☐ *MTC or Restricted Work Case*
- ☐ *First Aid*

Level of Incident:

☐ *Level 1* ☐ *Level 2* ☐ *Level 3*

SECTION 3	*DESCRIPTION OF INCIDENT* *What happened, how did it happen, any injury or damage?* *Detail sequence of events in a chronological order. Identify equipment/assets damaged. Provide as much detail as available.*

SECTION 4	*IMMEDIATE ACTION TAKEN (to prevent recurrence)*		
No.	*Action taken*	*Responsible Person*	*Timeline*
1			
2			
3			

SECTION 5	*WITNESS If any. Attach witness statement, if any.*		
No.	*Name*	*Address*	*Contact number*
1			
2			
3			

SECTION 6	INJURY/ ILLNESS DATA		
Injured Person		Nature of Injury/Illness	Part of body affected
Name :	Emp. ID :		

Company : Sex :	Occupation : Age :		
Name: Company : Sex :	Emp. ID : Occupation : Sex :		
Name : Company : Sex :	Emp. ID : Occupation : Age :		

Table 7 – Energy Sector Organisations: Sample Incident Investigation Report Form		
Date incident occurred:	*Time:*	*Report #:*
Date incident was reported:	*Time:*	
SECTION 1	*LOCATION OF INCIDENT*	
Organisation::	*Section :*	
Dept. :	*Equipment/system:*	
SECTION 2	*INCIDENT TYPE*	*Double click and checked*

Actual consequence

- ☐ *Injury/illness*
- ☐ *Fatality*
- ☐ *Property damage*
- ☐ *Environmental incident*
- ☐ *Traffic incident*
- ☐ *Quality incident*
- ☐ *Fire or explosion*
- ☐ *Operational disturbance*
- ☐ *Security*
- ☐ *Near miss*
- ☐ *Other (specify):*

Level of Incident:

☐ *Level 1* ☐ *Level 2* ☐ *Level 3*

SECTION 3	*DESCRIPTION OF INCIDENT* *What happened, how did it happen, any injury or damage?* *Detail sequence of events in a chronological order. Identify equipment/assets damaged. Provide as much detail as available.*	
SECTION 4	*IMMEDIATE ACTION TAKEN (to prevent recurrence)*	
No.	*Action taken*	*Responsible Person*
1		
2		
3		
SECTION 5	*WITNESS If any. Attach witness statement, if any.*	
No.	*Name*	*Address*
1		
2		
3		

Additional Data/Information

SECTION 6	INJURY/ ILLNESS DATA		
Injured Person		Nature of Injury/Illness	Part of body affected
Name :	Emp. ID :		

Company : Sex :	Occupation : Age :		
Name: Company : Sex :	Emp. ID: Occupation : Sex :		
Name: Company : Sex :	Emp. ID : Occupation: Age :		

SECTION 7	ENVIRONMENTAL DATA
Type of environmental incident : Released material: Pathway (land, water, air):	Released material: Quantity (liter, kg, etc.):

SECTION 8	PROPERTY DAMAGE
Equipment/system name: ID/tag number :	Description of damage: Actual loss (USD):
SECTION 9	**TRAFFIC INCIDENT**
Vehicle ownership– 1st party Type (light, truck, industrial): Registration number: Company:	Driver's name : Age: License number:
Other vehicle ownership – 2nd party Type (light, truck, industrial): Registration number: Company/Individual:	Driver name: License number: Age:
SECTION 10	**FIRE & EXPLOSION**
Cause of fire/Explosion: Explosion Type (Nuclear/Mechanical/Chemical/Electrical) Equipment/system name:	Ignition/heat source : Fuel source : ID/tag number :

SECTION 11	Root Cause Analysis			
Immediate Causes: 1. 2. 3.			Basic Causes 1. 2. 3.	
SECTION 12	Corrective and Preventive Actions (CAPA)			
No.	Corrective Actions (aligned with immediate causes)	Responsible Person	Time line	Status
1.				
2.				
3.				
4.				
No.	Preventive Actions (aligned with basic causes)	Responsible Person	Time line	Status
1.				
2.				
3.				
4.				

SECTION 13	Completion of Report
Prepared by: *(Supervisor or Investigation Team Leader)*	Signature Date:
Reviewed by: *(Sectional Head / HSSE Head)*	Signature Date:
Reviewed by: *(Dept. Manager or Manager Once Removed)*	Signature Date:
Approved by: *(CEO /Managing Director)*	Signature Date:

Attach witness statements, RCA Report, drawings/pictures, related permits, etc. to this report

5.0 HSSE RECORD RETENTION STANDARD

5.1 CONTEXT

This chapter provides the needed guideline for HSSE records retention periods. This serves as a measure to satisfy both legal requirements and other requirements and internal management processes. Records play an important role in an organisations management processes.

5.1.1 PURPOSE

The purpose of this Record Retention Standard is to describe systems for Energy Sector Organisations to archive HSSE documents, retrieval of same and the length of period to archive the documents.

5.1.2 SCOPE

This standard is applicable to all Organisations working in the energy sector in the Republic of Ghana.

5.2 RECORD RETENTION DURATIONS

The table below indicates the types of records and their related retention periods.

Table 8-Guideline on HSSE Record Retention Period

CODE	RECORDS	RETENTION PERIOD
HSSE A	Training – General	Employment Duration + 10 Years
HSSE A1	Specific Skills	Employment Duration + 10 Years
HSSE A2	Certifications	Employment Duration + 10 Years
HSSE A3	Contractor Orientation/Induction	While Active +5 Years
HSSE A4	Repetitive, required training (eg. annual hearing conservation programme)	Current & previous records

CODE	RECORDS	RETENTION PERIOD
HSSE B	Personnel & Workplace Exposure Assessments	
HSSE B1	Job Specific Ergonomic Evaluations	Indefinite
HSSE B2	Job Evaluation Analyses (Original & Revised)	Indefinite
HSSE B3	Air Toxic Exposure Assessments	Indefinite
HSSE B4	Analytical Efforts which Support Monitoring Activities	Indefinite
HSSE B5	Welding, Cutting, Fume & Brazing Exposure Assessments	Indefinite
HSSE B6	Asbestos Exposure Assessments	Indefinite
HSSE B7	Beryllium Exposure Assessments	Indefinite
HSSE B8	Man Made Mineral Fibre (MMMF) Exposure Assessments	Indefinite
HSSE B9	Radiation Exposure Assessments	Indefinite
HSSE B10	Heat Stress Monitoring	Indefinite
HSSE B11	Facility Noise Surveys and Personnel Noise Exposure Assessments	Indefinite
HSSE B12	Other potential hazardous chemicals Exposure Assessments	Indefinite

HSSE C	Medical Surveillance (ref. is made to the applicable enactment relevant to data protection)	
HSSE C1	Pre-placement, Periodic & End of Contract Medical Examinations	Indefinite
HSSE C2	Pre-Hiring Work Histories	Indefinite
HSSE C3	Worker Functional Capacity Reports	Indefinite
HSSE C4	Examinations to Assess fitness to use PPE	Indefinite
HSSE C5	Audiometric Examinations	Indefinite
HSSE C6	Spirometry Examinations	Indefinite
CODE	RECORDS	RETENTION PERIOD
HSSE C7	Man Made Mineral Fibre (MMMF) Exposures	Indefinite
HSSE C8	Asbestos Exposures	Indefinite
HSSE C9	Beryllium Exposures	Indefinite
HSSE C10	Radiation Exposures	Indefinite
HSSE C11	Heat Stress Examinations	Indefinite
HSSE C12	Fire Brigade Examinations	Indefinite
HSSE C13	Employee Assistance Programmes	Indefinite
HSSE C14	Records/Minutes of Health Promotion Meetings and/or	Indefinite

	Campaigns	
HSSE C15	Any other medical surveillance	Indefinite
HSSE D	**Equipment Condition: This includes:** **Design Specifications, Equipment Inventory, Specific Usage, Inspection & Testing, Repairs, Replacements, Re-certifications, Alterations/Retrofitting and Disposition**	
HSSE D1	Boilers & Pressure Vessels (In accordance with Boilers and Pressure Vessels Safety Regulations 1970, LI 663)	While Active + 5 Years
HSSE D2	Conveyor Systems	While Active
HSSE D3	Fire Protection Equipment	While Active
HSSE D4	All Personal Protective Equipment	While Active
HSSE D5	Mobile Equipment	While Active
HSSE D6	Fall Protection Equipment	While Active
HSSE D7	Non-Destructive Testing reports (Cranes, lifts and Lifting Devices)	While Active
HSSE D8	Vessel Loading/Unloading	While Active
HSSE D9	Polychlorinated Biphenyls (PCBs)	While Active + 5 Years
HSSE D10	Equipment Containing Radiation Sources	While Active

CODE	RECORDS	RETENTION PERIOD
HSSE D11	Mobile Equipment Pre-operational Checks	90 days
HSSE D12	All Lifting Equipment	While Active
HSSE E	**Confined Space Programme**	
HSSE E1	Entry Permits	1 Year
HSSE E2	Register of Confined Spaces requiring permits	Current & Last Revision
HSSE F	**Respiratory Protection Programmes**	
HSSE F1	Fit Testing Records	Indefinite
HSSE F2	Personal Air Purifying Respirators (PAPR)-inspection and maintenance records	While Active
HSSE F3	Atmosphere Supplying Respirators	While Active
HSSE G	**Chemical Health Hazard Programme**	
HSSE G1	Chemical Inventories	Indefinite
HSSE G2	Material/Safety Data Sheets	While Active + 3 Years (MSDS shall be updated every 5 years)
HSSE H	**Work at Height and Fall Protection**	

HSSE H1	Work at Heights Permits	1 Year
HSSE H2	Register of elevated workplaces requiring permits	Current & Last Revision
HSSE J	**Engineering Design & Review**	
HSSE J1	Checklists	While subject equipment/process is active
HSSE J2	Engineering Drawings	Indefinite
HSSE J3	Prevention through Design (PtD)	Indefinite
HSSE K	**Contractor Safety/Health/Loss Prevention**	
HSSE K1	Records of Contractor Injury & Property Damage Investigations	5 Years
CODE	**RECORDS**	**RETENTION PERIOD**
HSSE K2	Minutes of Pre-Contract, Contract and Post-contract Appraisal Meetings.	5 Years
HSSE K3	Documentation of HSSE capacity building by Energy Sector Organisations for their Contractors	5 Years
HSSE K4	Documentation of HSSE related activities by Energy Sector Organisations for the Communities in its Catchment	Indefinite

	Area	
HSSE L	**Emergency Response and Disaster Preparedness**	
HSSE L1	Written Plans	Current & last revision
HSSE L2	Records of Emergency Drills/Simulation Exercises	5 Years
HSSE M	**Injury/Illness & Property Damage Recordkeeping**	
HSSE M1	Injury/Illness & Property Damage reports	5 Years
HSSE M2	Records of Ministry of Energy Level 3 Incidents, and Multiple Hospitalizations.	Indefinite (shall be logged in MoEn Incident Management Database)
HSSE M3	Explosion Investigation Reports	Indefinite (shall be logged in MoEn Incident Management Database)
HSSE M4	Molten Metal Incident Reports	Indefinite (shall be logged in MoEn

		Incident Management Database)
HSSE M5	Incident Investigation Reports	Indefinite (shall be logged in MoEn Incident Management Database)
HSSE M6	Spillage of petroleum products (Level 3 Incidents)	Indefinite (shall be logged in MoEn Incident Management Database)
HSSE N	**Energy Sector Organisations Audits, Inspections and Verification**	
HSSE N1	Inspections	While Active + 3 Years
HSSE N2	Employee Complaints	While Active + 3 Years
CODE	**RECORDS**	**RETENTION PERIOD**
HSSE N3	Violations and /or Corrective and Preventive Actions (CAPA)	While Active + 3 Years
HSSE N4	Settlement Agreements	While Active + 3 Years

HSSE N5	Management Audits	2 most recent Audits, including recommendations & corrective actions taken
HSSE N6	Regulators and/or Third Party Audits	
HSSE N7	Industrial Risk Insurance Audits	
HSSE N8	Field Audits - Internal	
HSSE P	**Written HSSE Programmes**	
HSSE P1	Policies	Current & Last revision
HSSE P2	Standards	
HSSE P3	Procedures	
HSSE P4	SOPs	

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19. Qatar Aluminium HSSE Management Structure Document.
20. Qatar Aluminium Incident Classification, Notification, Investigation and Reporting Procedure
21. Qatar Aluminium Respiratory Protection Procedure
22. Qatar Aluminium Work at Height and Fall Protection Procedure
23. Qatar Aluminium Written Work Procedure
24. Valco Incident Investigation Statement of Policy Procedure

TERMS AND DEFINITIONS

1. **Audit** – a systematic, independent and documented process for obtaining information and data and evaluating it objectively to determine the extent to which defined audit criteria are fulfilled.
2. **CAPA** – Corrective and Preventive Actions
3. **Competence** - ability to apply knowledge and skills to achieve intended results.
4. **Conformity** - fulfilment of a requirement.
5. **Continual Improvement –** The process of enhancing Health, Safety, Security and Environment (HSSE) Management Systems to achieve ongoing improvement in overall HSSE performance in line with the organisation's HSSE policy and performance objectives.
6. **Corrective Action** -action taken to eliminate the cause(s) of a nonconformity or an incident and to prevent recurrence.
7. **Contractor** – a person or Organisation providing services to another Organisation
8. **DFI** – Department of Factory Inspectorate
9. **Energy Sector Organisations:** Government or private organisations or institutions that work in the energy value chain which comprises of; petroleum upstream (exploration, development, production, disposal and decommissioning), petroleum downstream (crude, petroleum product import, LNG or natural gas import, refining, transportation, storage, marketing and consumption), power (electricity generation, transmission and distribution).

10. **Environment Incident** - is an unexpected or unplanned occurrence, failure or loss, with the potential for harming the ecosystem or natural resources, or human health (excluding occupational injury).
11. **EPA** – Environmental Protection Agency
12. **Fatality** - is a case that involves one or more people who died as a result of a work related incident or occupational illness.
13. **First Aid Case (FAC)** - is an occupational injury, which is minor and involves no treatment or one time treatment of scratches, cuts, first degree burns, splinters etc. First aid can be provided by a qualified first aid provider.
14. **GHS** – Ghana Health service
15. **GNFS** – Ghana National Fire Service
16. **Hazard** - source with a potential to cause injury and ill health
17. **HSSE** – Health, Safety, Security and Environment
18. **Incident:**
    a) occurrence arising out of, or in the course of, work that could or does result in injury and ill health.
    b) An incident where injury and ill health occurs is sometimes referred to as an "**accident**".
    c) An incident where no injury and ill health occurs, but has the potential to do so, may be referred to as a "**near-miss**", "**near-hit**" or "**close call**".
19. **Injury and Ill health** - adverse effect on the physical, mental or cognitive condition of a person. These adverse effects include occupational disease, illness and death.
20. **Lagging Indicators** – these are measurements, which indicate the results of an intervention strategy after the fact. These are linked to the outcome of an accident.

21. **Leading Indicators** - these are measurements, which are linked to preventive actions. Examples are participating in HSSE Training and HSSE Audits.
22. **Legal Requirements and Other Requirements –** legal requirements that anorganisation has to comply with and otherrequirements that an organisation has to or chooses to comply with.
23. **Lost Time Injury (LTI) –** is any work-related injury or illness, other than a fatality, which results in a person being unfit for work on any day after the day of occurrence of the occupational injury. 'Any day' includes rest days, weekend days, leave days, or public holidays. LTI consists of permanent and temporary disabilities.
24. **Management System** – set of interrelated or interacting elements of anorganisation to establish policies and objectives and processes to achieve those objectives.
25. **Medical Treatment Case (MTC) –** is an occupational injury/illness, which is, not minor and requires treatment beyond first aid. It is normally administered by a physician or registered medical professional under the standing orders of a physician.
26. **MoEn** – Ministry of Energy
27. **NADMO –** National Disaster Management Organisation
28. **Near Miss** -is an incident that does not result in an injury, illness or property/environmental damage, quality incident, and operational disturbance but had the potential to do so in other circumstances.
29. **Nonconformity** – a deficiency in meeting one or more of an Organisation's HSSE Management System.
30. **Objective** – results to be achieved. An objective can be strategic, tactical, or operational.

31. **Occupational illness –** is any abnormal condition or disorder, other than one resulting from an occupational injury, caused by exposure to environmental factors associated with employment. It includes acute and chronic illnesses or diseases caused by inhalation, absorption, ingestion, repeated trauma or direct contact.
32. **Occupational injury –** is any injury such as laceration, fracture, strain, amputation, etc. which is the result of a work accident or an exposure involving a single incident in the work environment. A condition resulting from an instantaneous exposure to chemicals is considered an injury. All back cases are normally classified as injuries even if it is believed they are the result of cumulative trauma.
33. **Operational Incidentor business interruption –** is an operational related incident that potentially can create a critical situation to production.
34. **Organisation –** person or group of people that has its own functions with responsibilities, authorities and relationships to achieve its objectives.
35. **Policy** - intentions and direction of an organisation, as formally expressed by its top management.
36. **Preventive Action –** action taken to reduce the likelihood that an underlying system deficiency or hazard will occur or recur in another similar process.
37. **Procedure** - specified way to carry out an activity or a process.
38. **Process** - set of interrelated or interacting activities which transforms inputs into outputs.
39. **Record –** a document showing or stating results achieved or providing information or data of activities performed.

40. **Requirement** - need or expectation that is stated, generally implied or obligatory.
41. **Restricted Work Case (RWC) –** is an occupational injury/illness, which results in restrictions, or limitations which affect the employee's ability to perform any essential function within normal duties. Employee's normal job duties include any tasks that the worker performs or may be expected to perform throughout the calendar year. If the employee would be expected to perform the activity that is restricted on any single day during the year, the case is recorded as one involving restricted work activity.
42. **Risk** – effect of uncertainty. An effect is a deviation from the expected, positive of negative
43. **Risk Assessment** – process(es) used to evaluate the level of risk associated with hazards and system issues.
44. **Unsafe Act-** is behaviour or activity of a person that deviates from safe procedure which can lead to an injury/illness, property/environmental damage, or business interruption.
45. **Unsafe Condition –** is condition of physical work environment or equipment which can lead to an injury/illness, property/environmental damage, or business interruption.
46. **Work** – a generalized term to describe both tasks, jobs and/or portions thereof.
47. **Worker** - person performing work or work-related activities that are under the control of the organization
48. **Workplace** - place under the control of the organization where a person needs to be or to go for work purposes

49. **Work Process** – a generalized term used to describe the sequence of steps, actions and/or activities carried out to accomplish the work.
50. **Work-relatedness -** is presumed for injuries and illnesses resulting from events or exposures occurring in the work environment unless one of the following exceptions applies in its entirety:
    a) Occurs when an employee or contractor is present in the work environment as a member of the general public. In case of a fatality, it will be included in the 3rd party statistics;
    b) Results solely from voluntary participation in a wellness program or in a medical, fitness, or recreational activity, such as blood donation, physical examination, vaccinations exercise class, volleyball, or football etc. Where the activity is company-sponsored the participation must be perceived by the employee as voluntary for this exception to apply;
    c) Involves signs or symptoms that surface at work but result solely from a non-work-related event or exposure;
    d) Is solely the result of eating, drinking, or preparing food or drink for personal consumption (whether bought on the employer's premises or brought in).
    e) Is solely the result of doing personal tasks in the work environment outside of the employee's assigned working hours;
    f) Is solely the result of personal grooming, self-medication for a non-work-related condition or is intentionally self-inflicted;

g) Occurs during a commute from the home to the work place unless he/she is using company provided transportation.

51. **Top Management** – person or group of people who direct and control the operation of an organisation.

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