Eskom	Manual	Group Capital

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Content

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1. Introduction

The purpose of this document is to define the scope of the Medupi Power Station Project's EMS, as well as the method of controlling documents required by the EMS and their relationship within the EMS. This document also provides an overview of how roles and responsibilities are structured within the system.

The scope of the EMS, and this Document, relates to the Project Management, Construction Management and Commissioning of the Medupi Power Station project by Team Medupi. The contents of this Manual shall be applied by the Medupi Project Team. Requirements placed upon Principal Contractors, direct Suppliers and Consultants are specifically defined in procedures emanating from this Manual. It should also be noted that conformance (or non- conformance) with this Manual, or any other part of the TM EMS, does not absolve Principal Contractors, Suppliers or Consultants from complying with relevant Legal or Contractual requirements. Contractors are specifically viewed as Employers in relation to their particular Scope of Work.

Contractors are required to provide information to TM as per contractual/legal or other requirements, to demonstrate compliance to legal and other requirements/environmental specifications particular to their Scope of Works.

2. Supporting Clauses

2.1 Scope

This document provides the Medupi Power Station Project with guidance on conforming to the requirements of the Environmental Management Systems (EMS) during the construction of Medupi Power Station project.

2.1.1 Purpose

The purpose of the document is to describe the complete system used to manage the construction of Medupi Power Station project, to detail activities, responsibilities, requirements and controls to manage the project's environmental requirements.

2.1.2 Applicability

This document shall apply to Medupi Power Station Project.

2.1.3 Effective date

Authorization date will be the effective date.

2.2 Normative/Informative References

Parties using this document shall apply the most recent editions of the documents listed in the following paragraphs.

2.2.1 Normative

[1] ISO 9001 Quality Management Systems - Requirements

[2] 348-961711 Project Execution Plan

[3] 348-883902 Project Quality Plan

[4] 348-653867 Development and Change of Medupi QMS Documents

[5] 348-883808 Document and Record Management Procedure

[6] 348-639974 Unit Construction Work Instruction

[7] ISO 14001 Environmental Management Systems, Requirements with guidance for use

[8] 32-95 Eskom Environmental, Occupational Health and Safety Incident Management

[9] 348-681011 The Environmental Management Plan for the Medupi Coal-fired Power Station in the Lephalale Area, Limpopo Province – The Construction Phase, Rev 2, 2010

[10] 348-860848 Medupi Environmental Policy

[11] 32-249 Environmental Liaison Committee Performance Indicators Reporting Procedure

[12] 240-91688868 Emergency Preparedness and Response Plan

[13] 348-693723 Environmental Incident Management Procedure

[14] 348-717685 Procedure for the handling of Environmental Non-conformities and Corrective Actions

[15] 348-275284 Environmental Audit Work Instruction

[16] 348-275237 Environmental Communications Work Instruction

[17] 348-646829 Register of EMS Procedures, Operational Controls and Records Master List

[18] 348-614061 Risk Management Plan

2.2.2 Informative

[1] The Constitution of the Republic of South Africa Act 108 of 1996

[2] National Environmental Management Act (107 of 1998)

[3] National Water Act 36 of 1998

[4] National Environmental Management Act: Air Quality Act 39 of 2004

2.3 Definitions

Term	Explanation
Activity	An action either planned, actual (existing) or historical, that occurs or is performed by employees on behalf of the company.
Actual completion date	Real date when an action is completed.
Competence	Ability to apply knowledge and skills to achieve intended results.

Term	Explanation
Contractor	An employer who performs construction work and includes principal contractors. Contracted companies are specifically viewed as employers in their own right, as per the OHS Act.
Employee	An individual in the full-time or part-time / occasional employ of Medupi Power Station Project Team
Environment	The surrounding in which humans exist that is made up of: i. the earth's land, water and atmosphere, ii. micro-organisms, plant and animal life, iii. any part or combination of (i) and (ii) and the interrelationship among and between them and iv. the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well being
Environmental aspect	An element of an organisation's activity, product and service that can have a beneficial or adverse impact on the environment.
Environmental Management Plan/Programme	A documented plan or programme which captures short-, medium- and long-term actions aimed at addressing environmental management at the Station.
Environmental Practitioner	Individual working in the Environmental Department, which includes the trainees, officers, senior advisors and manager.
Interested and affected part	Person or organisation that can affect, be affected by or perceive itself
Kick-off meeting	The initial gathering of the project team and contractor/service provider at the start of the new project. Its purpose is to communicate key project information, introducing project team members, and establish a shared understanding of the project's goals, scopes and timelines.
Life cycle	Consecutive and interlinked stages of a product or service, from raw material acquisition or generation from natural resources to final disposal.
Mobilisation	The process of a contractor/service provider preparing to commence work on a contract after it has been awarded. This involves ensuring all resources, personal, and infrastructure are in place before work begins.
Team Staff	All employees under Medupi project.
Target completion date	A specific date set for a specific action to be completed.
Unit Area	A functional responsibility allocated to an Environmental practitioner based on plant area and responsible contractors.

2.4 Abbreviations

Abbreviation	Explanation
Doc. Centre	Documentation Centre
EDMS	Electronic Document Management System/s
EMC	Environmental Monitoring Committee
EMP	Environmental Management Plan
EMP/EMPr	Environmental Management Plan/Programme
EMS	Environmental Management System
HCS	Hazardous Chemical Substances/Agents
RACI	Responsible, Accountable, Consulted, Informed
SPO	Smart Plant Operator
UNESCO	The United Nations Educational, Scientific and Cultural Organization

2.5 Roles and Responsibilities

The Health, Safety and Environmental Manager will delegate a responsible person/s for each Department who will:

- Identify environmental aspects in their area of responsibility.
- Determine the significance rating of the identified environmental aspects and impacts.
- Review environmental aspects/impacts and the associated significance rating when required.

Environmental management system roles, responsibilities and authorities have been identified as per Table 1 below. Each EMS Procedure referenced from this Manual also provides for a RACI Matrix defining roles and responsibilities particular to that Procedure.

The Management of the Team Medupi will jointly provide the resources essential to the implementation and control of the EMS, including training, human resources, specialty services, financial resources, technical and informational services.

The Health Safety and Environmental Manager is the EMS Management Representative and oversees the establishment, operation and maintenance of the EMS. These responsibilities may from time to time be delegated. The TM environmental department provide specific support. The Project's environmental organisational structure and line communication is depicted pictorially in Figure 4. Each member of the TM is expected to comply with applicable elements/requirements of the EMS.

Principal Contractors, and subcontractors, shall conform to requirements of the TM EMS were indicated in specific procedures, but shall in all cases comply with the relevant Project Agreements and applicable statutory and regulatory requirements. (Principal) Contractors are Employers in their own right and therefore must ensure compliance to all Legal and Other Requirements. Environmental roles and responsibilities of (Principal) Contractors are also expanded upon in the Medupi Construction Environmental Management Plan Rev 2, 2010 (SPO No. 348-681011).

Table 1:RACI Matrix Key

R - Responsible	Those who do the work to achieve the task. There is at least one role with a type of participation, although others can be delegated to assist in the work required.
A – Accountable (also approver or final approving authority)	The one ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. In other words, an accountable must sign off (approve) work that responsible provides. There must be only one accountable specified for each task or deliverable.
C - Consulted (sometimes counsel)	Those whose opinions are sought, typically subject matter experts; and with whom there is two-way communication.
I - Informed	Those who are kept up to date on progress, often only on completion of the task or deliverable; and with whom there is just one-way communication.

Table 2: RACI Matrix

Process Step/Activity	General Manager	Team Medupi Construction Manager	Team Medupi Staff	Departmental Managers	Contract Managers	Health, Safety and Environmental Manager	Environmental Practitioners	ECO	Contractors
Context of the Organization									
Understanding the organization and its context	A	C	I	C	R	R	R	C	I
Understanding the needs and expectations of Interested parties	A	C	I	C	R	R	R	C	I
Determining the scope of the EMS	A	C	I	R	R	R	R	I	I
Leadership									
Leadership and Commitment	A	R	I	R	R	R	R	I	I
Environmental Policy (compilation)	A	C	I	C	C	A	R	I	I
Environmental Policy (implementation and operation)	A	R	R	R	R	R	R	I	R
Organizational Roles and Responsibilities	A	R	R	R	R	R	R	R	R

Process Step/Activity	General Manager	Team Medupi Construction Manager	Team Medupi Staff	Departmental Managers	Contract Managers	Health, Safety and Environmental Manager	Environmental Practitioners	ECO	Contractors
Planning									
Environmental Aspects	I	C	C	C	R	A	R	I	R
Compliance Obligations	A	R	R	R	R	R	R	R	R
Objectives & Targets	A	R	R	C	R	R	R	I	R
Support									
Resources	A	R	C	R	R	R	R	I	R
Competence	A	R	C	R	R	R	C	I	R
Awareness	A	R	I	R	R	R	R	I	R
Internal Communication	A	R	I	C	R	R	R	I	R
External Communication	A	C	I	C	C	R	I	R	I
Documented Information	A	R	R	R	R	R	R	R	R
Operation									
Operational Planning and Control	A	R	R	R	R	R	R	I	R
Emergency Preparedness	A	R	R	R	R	R	R	I	R
Performance Evaluation									
Monitoring, measurement and analysis	A	C	C	C	C	R	R	I	R
Evaluation of compliance	A	C	C	C	C	R	R	R	R

Process Step/Activity	General Manager	Team Medupi Construction Manager	Team Medupi Staff	Departmental Managers	Contract Managers	Health, Safety and Environmental Manager	Environmental Practitioners	ECO	Contractors
Internal audit	A	C	C	C	C	R	R	R	R
Management review	A	R	R	R	R	R	R	I	I
Improvement									
Nonconformity and corrective action	A	R	R	R	R	R	R	R	R
Incident management	A	R	R	R	R	R	R	R	R
Continual Improvement	A	R	R	C	R	R	R	R	R

2.6 Related/Supporting Documents

See section 2.2 of this manual.

3. Document Content

3.1 Process map/Flow Chat

Not compiled.

3.2 Context of the Organisation (COTO)

Medupi Power Station project is committed to determining its position in the marketplace and understanding how relevant factors arising from legal, political, economic, social and technological issues influence its strategic direction and which define its organizational context.

Medupi Power Station project identifies, analyses, monitors and reviews factors that may affect its ability to satisfy its customers and stakeholders, as well as; factors that may adversely affect the stability and integrity of its processes and management system.

To ensure that our organizational context is aligned with our strategy, whilst taking account of relevant, influential, internal and external factors; Medupi Power Station project collates and analyses information pertinent to those influential factors to identify issues that have the potential to be affected by our activities, products and services. Similarly, we identify internal and external issues that could be capable of affecting our organization's ability to deliver products, services or activities.

Medupi Power Station project collates, assesses and reviews information about these relevant influential factors to ensure that a continual understanding of each factor and its effects is derived and maintained to develop our contextual intelligence. To facilitate the understanding of our context, our Top management team regularly consider these issues using SWOT and PESTLE analysis to determine and plan for issues that may influence our business. These are reviewed during management review meetings, the results of which are recorded and conveyed via meeting minutes, revised objectives, policies, and business planning documents where appropriate.

The output from this activity is evident as an input to the consideration of risks and opportunities, and the actions that we take to address them. For more information about our risk and opportunity management framework, refer to Section 3.4.1.

The following lists will form part of the context of the organisation, the context will guide priorities for the organisation, mitigation or corrective actions shall be addressed at different platforms including management meetings, stakeholder meeting etc.:

3.2.1 Understanding the Organisation and its Context

The Medupi Power Station Project determined external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its environmental management system. Such issues include environmental conditions being affected by or capable of affecting the organisation. External and internal issues are captured in the external and internal register template (348-10102307). See document number 348-10102500 for detailed Medupi Power Station Project identified external and internal issues.

3.2.2 Relevant Interested Party/ies

Medupi Power Station project recognizes that we have a unique set of interested parties whose needs and expectations change and develop over time, and furthermore; that only a limited set of their respective needs and expectations are applicable to our operations or to our EMS. Medupi Power Station Project has determined the interested parties that are relevant to the environmental management system; the relevant needs and expectations of these interested parties; and which of these needs and expectations become its compliance obligations. Such needs and expectations are identified and captured in register template (348-10102302) with unique identifier (348-1010249).

3.2.3 EMS Scope

The scope of the EMS covers all construction activities on the physical Medupi Power Station Project Site property located within Lephalale local municipality, Limpopo province, as well as the footprint of adjacent properties where related construction activities are conducted.

This manual applies to all existing or planned activities, products and services at the Medupi Power Station Project (construction and commissioning stages), under normal, abnormal and emergency conditions, as well as to employees and contractors.

Medupi power station project FGD and all areas that fall under Medupi Generation (Gx) are excluded from the current scope of the EMS. FGD Plant shall only form part of the EMS scope upon the commencement of the construction phase.

Medupi Flue Gas Desulfurization Plant (FGD)

The Medupi Power Station Flue Gas Desulfurization (FGD) Retrofit Project will consist of the addition of FGD systems to six 800-megawatt (MW) coal fired steam electric generating units. The FGD Project will result in the addition of wet limestone open spray tower FGD systems to each of the operating units.

Each of the Medupi Power Station units has been designed and constructed with provisions incorporated into the space and equipment design to accommodate the installation of FGD systems. Each of the six FGD absorbers will treat the flue gas from one boiler; commercial-grade saleable gypsum, chemical sludge and chemical solids will be produced as by-products. A cluster of three absorbers will be located near each of the plant's two chimneys. Systems for makeup water, limestone preparation, FGD by-product (gypsum) dewatering, and storage/disposal and treatment of the wastewater stream will be common to all FGD absorbers in the plant.

The FGD areas can be categorised into 2 areas, the limestone off-loading area and the main FGD area. The limestone off-loading area for receipt of limestone via the new Rail Siding or trucked via a new access road network. This area includes the limestone stockpile, pollution control dams and other infrastructure to facilitate limestone offloading. The limestone off-loading area contains a gypsum storage building for the off take of gypsum via rail in the future. The main FGD area is the area on the western side of the existing Boilers, which comprises of the Process and proposed Wastewater Treatment Plants (WWTP). The limestone and gypsum conveyor servitudes connect the main FGD area and limestone off-loading area.

Program details:

a) A limestone off-loading facility.

b) A limestone stockyard and associated handling system.

c) A limestone slurry preparation system.

d) The FGD absorber and common plant infrastructure.

e) A gypsum dewatering system.

f) New wastewater treatment facility independent of the power stations water treatment facility.

g) Gypsum off-take and disposal facility.

The geographical boundary of the property, over which Medupi Power Station Project exerts control, is depicted in Figure 1 below.

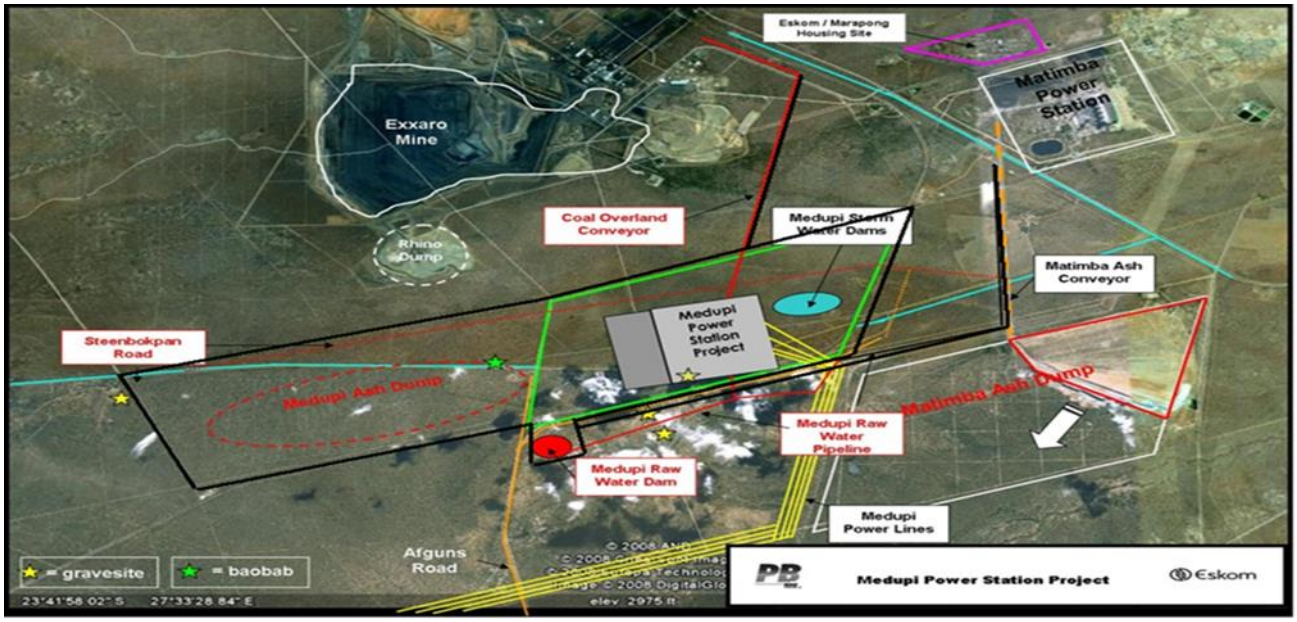

Figure 1: Geographical boundaries of Medupi PS

Medupi Power Station Project may attempt to influence activities, products and services that do not fall under their direct control/areas of jurisdiction where reasonably practicable (such as by querying or commenting on environmental concerns, when required) but such activities, products and services may fall under the environmental scope and control of other Eskom Business Units or Corporate functions e.g. the coal supply agreement.

Since all actual site construction is undertaken by contactors, contracted companies are specifically viewed as employers in their own right, as per the OHS Act. In this regard, operational documentation for significant environmental aspects and impacts is controlled through the requirements stipulated in the Medupi Construction EMP Rev 2, 2010 (348-681011) and may be controlled further through contractor's method statements and procedures, which is reviewed and influenced by Medupi Power Station Project's Site Environmental Department. Contractors are not required to have EMS certification.

3.2.4 EMS Processes

Medupi Power Station project has implemented an EMS that exists as part of a larger strategy that has established, documented and implemented our processes, policies and objectives, whilst satisfying the requirements of ISO 9001:2015. To achieve this, Medupi Power Station project has adopted the process approach advocated by the above management system standards.

Top/senior management team has determined the processes required for achieving the intended outputs. Medupi Power Station project ensures that system effectiveness is established and maintained. These processes are described using tools such as procedures, process maps, activity flow diagrams, matrices, schedules, and charts, etc.

It is recognized that defining, implementing and documenting the environmental management system is only the first step towards fully implementing its requirements.

The effectiveness of each process and its subsequent output is measured and evaluated through regular internal audits, inspections and data analysis. We use key performance indicators (KPIs) that are linked to our objectives to monitor our processes, as well as assessments to determine the risks and opportunities inherent to each process. We also use trends and indicators relating to non-conformities, objectives and corrective action, as well as; monitoring and measuring results, customer satisfaction and process performance data.

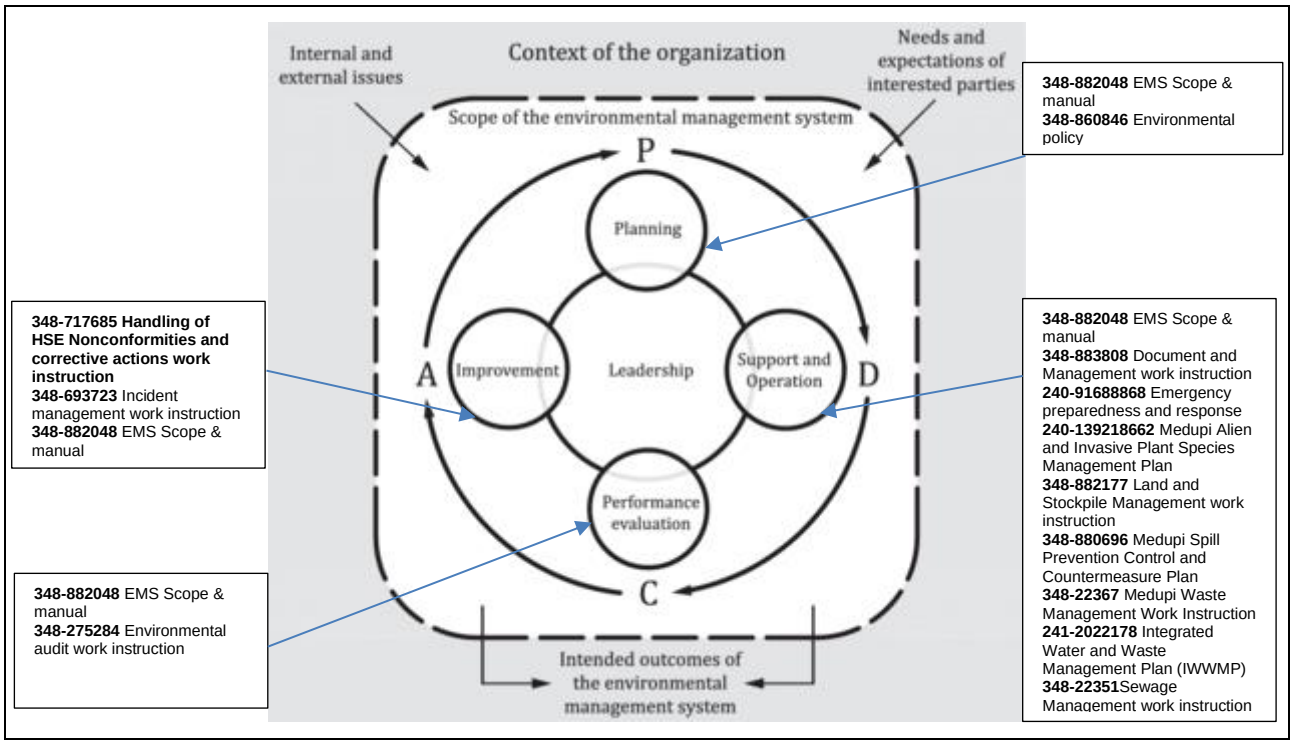

Figure 2: EMS Overview

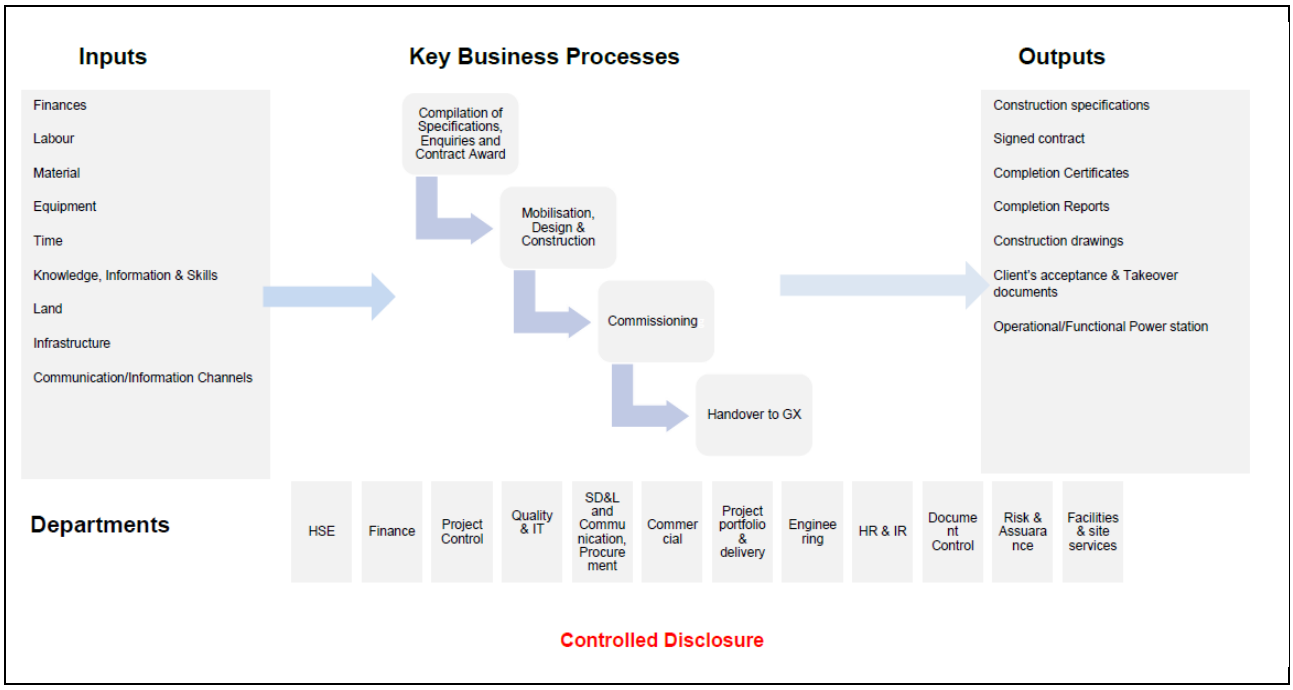

Figure 3: Key business processes

3.3 Leadership

3.3.1 Leadership and Commitment

Medupi Power Station project leadership is at the centre of the EMS. Top leadership ensures that the system operates efficiently by ensuring that:

- the environmental policy and environmental objectives are established and are compatible with the strategic direction and the context of the organization.
- The resources are available to implement the EMS systems. The project has an environmental budget in place where all EMS Objectives and Key Projects etc. are catered for. Top management also demonstrate leadership by ensuring qualified staff are placed to ensure environmental responsibilities are executed.
- The principle on continual improvement is entrenched, through management reviews and regular management meetings where environmental issues are discussed. The management reviews are chaired by General Manager or delegation where applicable.
- The intended outcome of the system is achieved, by ensuring environmental KPI's are in place to address the intended outcome of the system.
- The EMS system is integrated into organisation processes, by ensuring that the environmental management is part of top management meetings, inter-departmental teams that addresses specific issue like water management, procurement, design and construction meetings.
- Ensure that all environmental policies, procedures and objectives are implemented or executed.

- The importance of effective environmental management and of conforming to the environmental management system requirements are communicated. This is achieved through various awarenesses onsite including induction.
- Directing and supporting persons to contribute to the effectiveness of the environmental management system through availing required resources, training and awareness.
- Other relevant management roles to demonstrate their leadership as it applies to their areas of responsibility are supported.

3.3.2 Environmental Policy

The environmental policy is documented as per document 348-860846 and the following applies:

- Policy is reviewed three yearly as per document control procedures or as the need arises.
- Signed by the General Manager.
- Is in line with the Eskom SHEQ Policy (32-727).
- Is communicated to all employees through inductions, toolbox talks and other media platforms.
- Appropriate to the purpose and context of the organisation, including the nature, scale and environmental impacts of its activities, products and services.
- Include a commitment to the protection of environment, including prevention of pollution and other commitment(s) relevant to the context of project.
- Provides framework for objectives and targets.
- Is available to all interested and affected parties.
- Includes commitment to fulfil legal compliance and continual improvement.

3.3.3 Organisational roles, responsibilities and authorities

Environmental roles and responsibilities are outlined in the EMS representative appointment letter as delegated by the General Manager. Detailed description of the roles and responsibilities are outlined in the EMS work instruction/procedures through the RACI matrix.

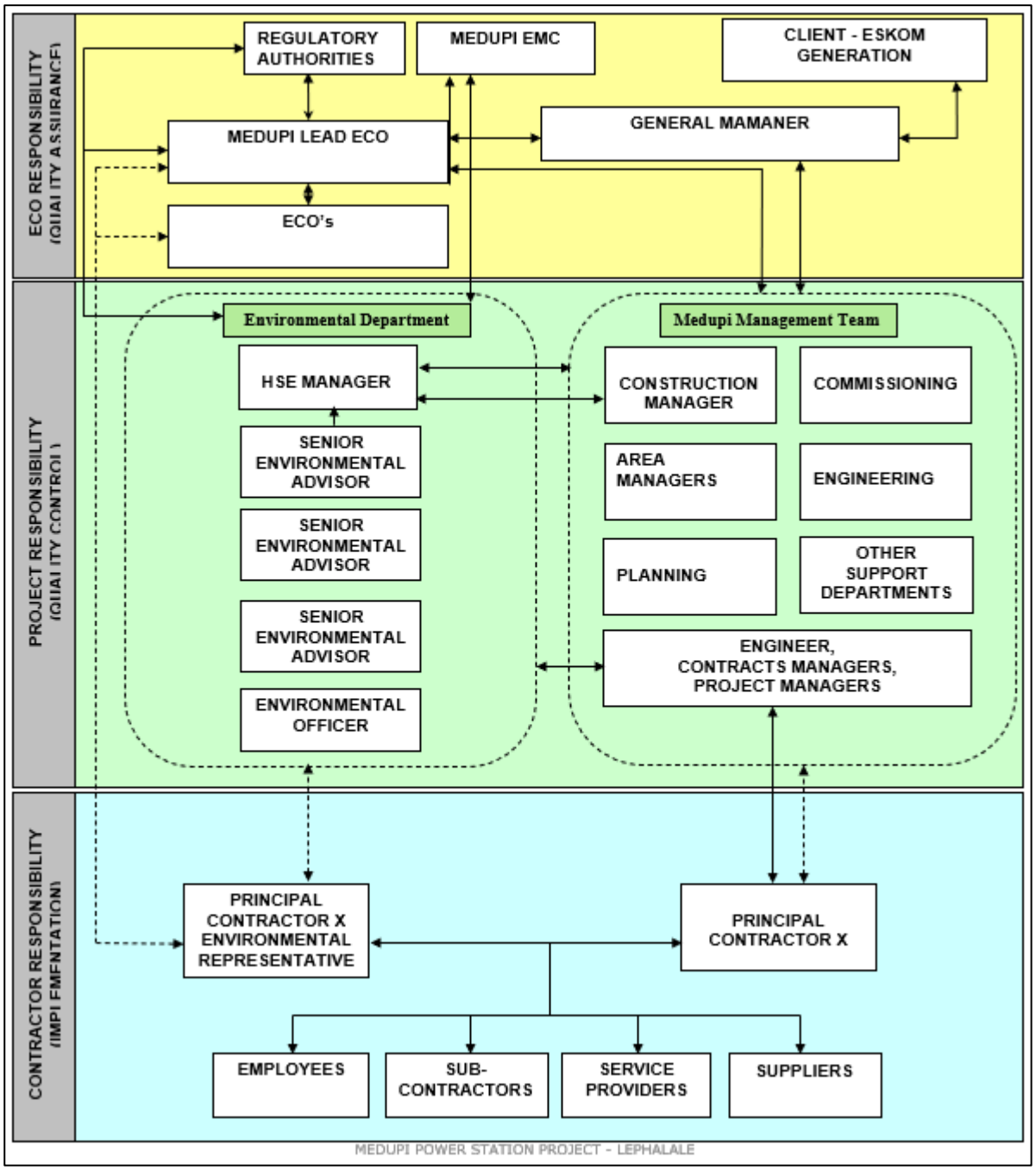

Figure 4: TM Environmental Communication Overview

3.4 Planning

3.4.1 Actions to address risks and opportunities

3.4.1.1 General

Medupi Power Station Project developed, implement, and maintains the Environmental Risk Register (348-1033378) with template (348-64756) which aim to address all relevant risks and opportunities associated with the scope of the EMS. Risk and opportunities related to environmental aspects, compliance obligations and other issues and requirements identified in the organisation and its context, and in understanding the needs and expectations of interested parties that need to be addressed are determined.

In providing assurance to the organisation on the actions to address risks and opportunities, the Medupi Power Station project identifies the key focus areas, describe the risks and opportunities, monitoring the progress of the identified risks and opportunities, and assign the responsibility with a time frame to specific department or persons.

Risks and opportunities addressed and monitored in various platforms that includes regular Risk meetings, environmental department meetings, business review meetings etc.

3.4.1.1.1 Techniques and Methods of Identifying Risks

One or more of the following techniques may be used in risk identification:

Table 3: Risk Identification Techniques

Technique	Description
Brainstorming	Involves a good range of stakeholders. The forum shall allow open and honest discussions.
Interviewing	Can be one-to-one with Project team members and/or stakeholders. Consideration of obtaining expert advice.
Learning from Experience	Compare with similar projects or those at a similar stage of the project lifecycle.
Prompt List	Use of a generic list to generate initial thoughts and to act as a stimulus for further identification techniques.
Checklist	Use of a specific checklist to ensure that all possible sources of risks have been considered
Review of Project Data	Use of project documentation to aid the identification of environmental risks.

When determining risks and opportunities, environmental aspects, compliance obligations and other issues and requirements, identified in clause 4.1 and 4.2 of ISO14001:2015, that need to be addressed are taken into consideration.

3.4.1.1.2 Analyse Risks

Risks analysis includes qualitative assessments of the consequences and likelihood /probability of the identified risks occurring.

Qualitative Risk analysis involves consideration of the risks, their positive and negative consequences, and the likelihood that those consequences may occur, considering the controls already in place. Risk shall be analysed by examining consequences and their likelihood against Eskom's approved consequence criteria and likelihood scales (Table 4 & 5) The combination of likelihood and consequence shall indicate the risk level. (Table 6).

3.4.1.1.3 Priority Attention

See table 7 for details.

3.4.1.2 Environmental Aspects

During the identification and assessments of environmental aspects, the life cycle approach will be applied, taking into consideration the following:

- The level of risk the aspect presents to the organizations.
- The level of risk the aspect presents to the environment.
- The degree of influence or control the organization has over the aspect.

Medupi project will apply the life cycle approach (cradle to grave) pertaining to the impact caused by its suppliers, service providers etc. The approach described above is a continual improvement process and must be assessed on an ongoing basis (at least annually) to verify whether the life cycle approach is being applied for significant activities.

The life cycle approach will follow the following basic steps:

Pre-Use Phase (Cradle)

This phase will cover the risks associated with sourcing (supply chain) of raw materials, manufacturing process and transportation to site where applicable.

Construction and commissioning phase

This phase will cover the risks associated with all stages of construction including but not limited to site establishment, excavations, concrete pouring/steel fabrications, etc.

End of life of construction (Grave)

This phase will cover the risks associated with all stages of end-of-life phase including but not limited

Rehabilitation, demolition phase, landfilling or recycling.

3.4.1.2.1 Identification of Environmental Aspects and Impacts

The responsible environmental practitioner shall identify, assess and capture environmental aspects and impacts arising from activities, products, and services related to Medupi Power Station Project activities on the Medupi Power Station Project (Construction Phase) Environmental Aspects and Impacts Register template (348-10092514), unique identifier (348-646271). Once rated significant impacts are captured on significant aspect register template (348-10102937), unique identifier (348-10103921).

- For each responsible Unit/Area/Department, environmental aspects are identified based on:
  - a description of the activities that take place in the area.
  - the known impacts of the activities.
  - any changes in the Unit's activities, products or services.
- When determining the environmental aspects and associated impacts, the following must be considered:
  - potential and actual impacts.
  - positive and negative impacts.
  - direct and indirect impacts (the use of a resource such as electricity indirectly uses water and fuels which are examples of indirect impacts).
  - inputs and outputs associated with current, past and planned activities, products and services.
  - normal, abnormal and reasonably foreseeable emergency situations.
  - life cycle approach is used and improved on an ongoing basis.
  - legal database reference and changes to any legislations.
  - potential secondary and cumulative impacts.
  - the extent to which Medupi Power Station Project has control or influence over its activities, products and services.

3.4.1.2.2 Rating of Environmental Aspects and Impacts

Table 4 and 5 shall be used to determine the significance relative to the likelihood and consequences of an impact with the resultant Table 6 Impact Matrix.

Table 4:Consequence Criteria

Rating	Environment
6	▪ Irreversible long term environmental harm. ▪ Community outrange-potential large-scale class action. ▪ Public inquiry by government agency. ▪ Environmental licence revoked. ▪ Potential for significant legal sanctions against Eskom.

Rating	Environment
5	▪ Prolonged environmental impact. ▪ High profile community concerns raise requiring significant rectification measures. ▪ Government agency inquiry. ▪ Environmental licence revoked and directive issue.
4	▪ Measurable environmental harm medium term recovery. ▪ High potential for complaints and from stakeholders and community. ▪ Environmental directives issued by authorities.
3	▪ Medium term recovery, immediate effect on environmental/community. ▪ Required to inform government agency (e.g. noise and dust).
2	▪ Short term transient environmental and community impact some clean-up cost.
1	▪ Negative impact on the environment, little to no ecological effect and no measurable impact on human health.

Table 5: Likelihood Criteria

Category	Criteria
E	▪ 99% probability, or ▪ impact is occurring now, or ▪ could occur within “days to weeks”
D	▪ >70% probability, or ▪ balance of probability will occur, or ▪ could occur within “weeks to months”
C	▪ >20% probability, or ▪ may occur shortly but a distinct probability it won’t, or ▪ could occur within “months to years’”
B	▪ >5% probability, or ▪ may occur but not anticipated, or ▪ could occur in “years to decades”
A	▪ <5% probability ▪ occurrence requires exceptional circumstances

Category	Criteria
	▪ exceptionally unlikely, even in the long-term future ▪ only occur as a “100 year event”

Table 6: Impact matrix

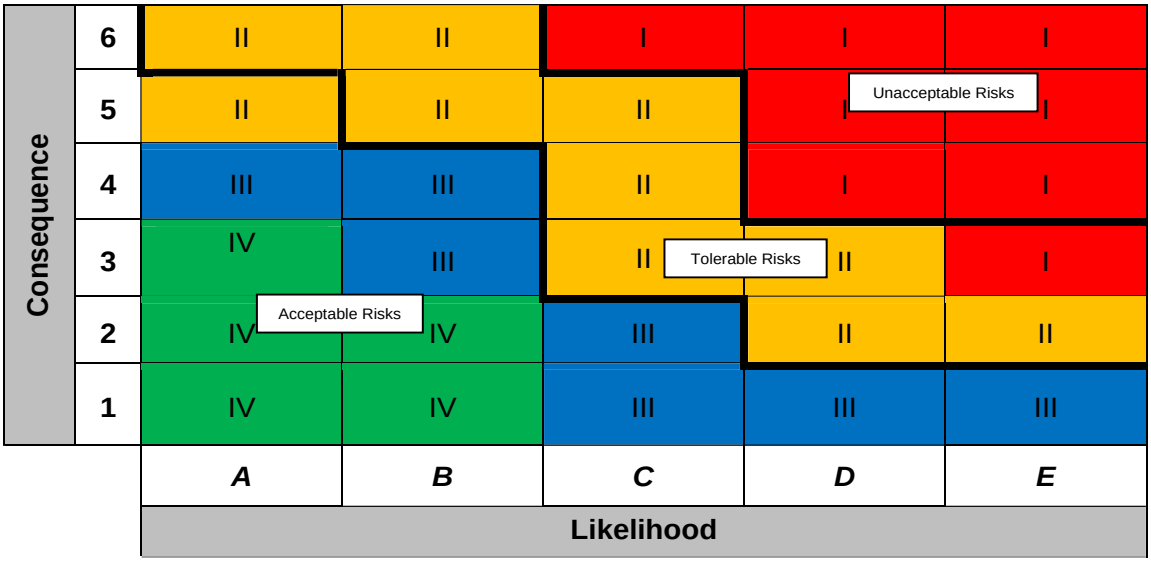

Table 7: Priority Attention

Priority	Suggested timing of treatment	Authority for continued toleration of residual risk
I	Short term. Normally within 1 month	General Manager
II	Medium term. Normally within 3 months	General Manager, Line Managers (e.g. Unit Managers, Contract Managers, Construction Managers)
III	Normally within 1 year	General Manager, Line Managers (e.g. Unit Managers, Contract Managers, Construction Managers)
IV	On-going control as part of a management system	All Staff

3.4.1.2.3 Methodology for rating of significance of impacts

a) Determine the likelihood of occurrence of an aspect and the consequence of an impact on the environment. Correlate the row of consequence level (1-6) with the likelihood column (A-E) and conclude on the significance.

b) Formula used for obtaining significant impacts = likelihood score matched with consequence score e.g. Score of A1= IV implies insignificant aspect rating (green) while E6= I implies significant aspect rating (red). Negligible/very low, low, medium, high.

c) The significance of impacts is colour coded in register to indicate significance.

d) Significant impacts are listed and are given priority in management programmes.

e) A negligible, low, medium impact may escalate if not addressed and therefore shall be appropriately managed as part of day-to-day operation of the site.

f) Significant impacts will be communicated to the relevant stakeholders. Monitoring programmes will be tracked continuously and potential changes to significance will be communicated immediately. Resultant changes due to the successful implementation of controls will be reviewed and communicated during Management Reviews.

g) Significant impacts shall be used to formulate project's environmental objective which will be monitored, measured and reviewed during management reviews.

h) Aspects and Impacts register shall be reviewed annually and/or as when required. Changes made after each review will be documented on the Aspect and Impact register.

3.4.1.2.4 Monitoring and Measurement

- Review the Project-wide Environmental A&I Register on an annual basis, but also in the following instances:
  - The occurrence of an Emergency Event.
  - Any change in Legal and Other Requirements that has significant impact to the Project.
  - Aspects and/or Impacts brought to the attention of the Environmental Department by Medupi personnel.
  - When an applicable audit/self-assessment finding arises.
  - When contracts come to an end.
  - Changes in scopes of work/activities.
- Progress on mitigation of significant Impacts shall be discussed at relevant meetings.

3.4.1.3 Compliance Obligations

- The Project's Legal Register is compiled and updated by an external service provider using information received from site's Aspects & Impacts register as part of the inputs. The register consists of all relevant environmental Legislation.
- Other Requirements (e.g. SANS Standards, Funders requirements, corporate procedures etc.) to which the Project subscribes are found on the Eskom Intranet Legal Database.
- The EMS legal requirements include national, provincial, bylaws and regulations, environmental permits, registrations, standards etc.
- This legal register is updated as and when required.
- Should any employee or contractor on Medupi Power Station Project Site require access to specific legal or other requirements, they should contact the TM Environmental Department

- The Project's Legal Register and Other Requirements Information is accessible to all Environmental Practitioners as well as the Environmental Manager.
- Eskom Legal and Other Requirements Register/Database can be accessed thorough Eskom website and service provider's website.
- Actual site specific environmental legal and other requirements (e.g. Environmental Authorizations and/or EMP's) can also be found on Medupi's electronic documentation system (e.g. SPO or Opentext). Due to the changing nature of the site, availability at points of use is limited to the Medupi Environmental Department or Principal contractors Contractor Environmental Personnel.
- Medupi Power Station project environmental authorisations, permits and licenses are captured in the Medupi Power Station project EA/ RoD, License, Permits, Certificates and Servitudes Register template (348-10103381), unique identifier (348-678483).
- The Medupi Record of Decision (RoD) (Ref: 12/12/20/695) section 3.2.4 and various subsequent ROD's require that the Medupi Environmental Monitoring Committee (EMC), in conjunction with the developer, to appoint a suitably qualified Environmental Control Officer (ECO) who would on behalf of the EMC, on a daily basis monitor the project compliance with conditions of the Record of Decision, environmental legislation and recommendations of the Environmental Management Plan (EMP). The ECO will monitor compliance by conducting regular inspections and audits onsite.
- A legal compliance evaluation is conducted at least every three years to ensure the organization's compliance with legal and other requirements that may be applicable.
- Escalations of overdue findings are handled according to the Group Capital Division SHE Audit Management Standard, 39-33.
- Any other compliance may also be assessed through site inspections and routine sampling.
- Non-compliances are reported and managed in accordance with Handling of Environmental non-conformities and Corrective and Preventative Action (348-717865).
- Non-compliance with legal and other requirements may be discussed and/or addressed at the relevant site meetings/forums.

3.4.2 Environmental objectives and planning to achieve them

Medupi Power Project has developed Environmental Objectives that are documented in the Register template (348-717756), unique identifier (348-1033379). Environmental objectives are communicated at various platforms including inductions, management reviews meetings, business review and SHE meetings. Significant environmental aspects and associated compliance obligations, and risks and opportunities are taken into consideration during the establishment of environmental objects. Some of environmental objectives included in the programme are set out from Eskom head office.

Achievement of environmental Objectives shall be reviewed at an annual EMS Management Reviews Meetings or ad-hoc/interim EMS Management Review Meetings (Business Reviews) and updated accordingly.

3.4.2.1 Establishment of Objectives and planning to achieve them

- Medupi power station project established environmental objectives at relevant functions and levels, taking into account the organisation's significant environmental aspects and associated compliance obligations. Risks and opportunities are considered during the establishment of environmental objectives.
- Established environmental objectives are authorised by TM's top management.
- The TM environmental practitioners communicate environmental objectives to principal contractors and Eskom employees through platforms such as Medupi Environment email, Inductions and Medupi Communications email.
- Progress towards achieving the objectives will be reviewed at relevant SHE Committee meetings or management meetings, at least, on a six-monthly basis. The progress will be communicated to TM employees through Medupi Communications email or other appropriate platforms when necessary.
- At the end of Eskom Financial Year, TM Management will review its performance regarding achieving the objectives. This information is then used as input or considered when setting objectives and targets for the succeeding year. It must be noted that some objectives and targets will not be fully achieved as these may span over a number of years. However, progress of such objectives and targets must be presented.

3.4.2.2 Monitoring and Measurement of the Management Programs

- The TM SHE Manager/Environmental Practitioners shall report on the status of Objectives implementations required to the Medupi Power Station Project's Site Management.
- Records indicating the achievement and progress of the Management Programme shall be kept in the EMS system folders stored on an Eskom approved application. e.g. OpenText or other platforms.
- Achievement of Objectives shall be reviewed at an annual EMS Management Reviews Meetings or ad-hoc/interim EMS Management Review Meetings (Business Reviews) and updated accordingly.
- The monitoring of environmental Objectives shall be monitored and documented as per Document 348-1033379 (Environmental Objectives and planning to achieve them Programmes).
- Environmental Objectives not achieved in the current financial year shall be rolled over to the next financial year.

3.5 Support

3.5.1 Resources

Medupi Power Station project management is responsible for ensuring that the EMS is established, implemented, maintained and continually improved. This is achieved by providing adequate resources including people, infrastructure (Offices and furnisher), technology, equipment (Computers, printers, vehicles), software tool (SAP EHS, SAP QIM, OpenText, legal Register), finance (training and environmental budget), external consultants and training.

3.5.2 Competence

- Functional managers, will assess the competence of the TM staff members through mechanisms such as existing qualifications, Performance Appraisals, job observations, etc.
- The competence of the staff of the Environmental Department shall be assessed by the Environmental Manager using human resource policies and procedures.
- Where competency is lacking, training interventions shall be discussed and agreed between the staff member and relevant manager as per human resource policies and procedures.
- Once an agreement is reached between the staff member and the relevant manager, the staff member may enrol for relevant environmental training.
- Environmental Training required by TM Environmental Department Staff, shall first be discussed with the Environmental Manager in accordance with the Staff member's IDP, and if an agreement is reached, such training will follow the Zenzele and Eskom Training Procedure protocol.
- Details of such training intervention requirements must be communicated to TM Training Department/HR.
- Environmental Training of non-environmental department staff will also be formalized according to the ESKOM/Zenzele protocol.
- All records of environmental training shall be kept in the employee's personal file.
- Typical training interventions are covered in the Environmental Training Matrix template register (348-10103095), unique identifier (348-10103310) and Eskom "Minimum SHE Training" 39-3.
- Training can be done either in a written or verbal format or in an appropriate language but will be in an appropriate format for the receiving audience. Where training has been done verbally, persons having received training must indicate in writing that they have indeed attended a training session. Where appropriate a regular form of written or verbal testing will be used to test whether competency has been attained.

3.5.3 Awareness

- The Environmental Department provides Environmental Awareness to the TM Staff on a regular basis.
- Typical environmental awarenesses are covered in the SHE standdown programme (348-10100100) and environmental calendar (348-10116154).
- The Environmental Control Officer (ECO) identifies environmental awareness needs based on findings from site environmental observations and audits. The ECO may conduct environmental awareness to site staff and contractors, where deemed necessary.
- Environmental awareness may typically include/involve:
  - A basic understanding of the key environmental features of the construction site and the surrounding environment.
  - The environmental policy.

- The significant environmental aspects and related actual or potential environmental impacts associated with their work.
- The employee's contribution to the effectiveness of the environmental management system including the benefits of enhanced environmental performance.
- The implications of not conforming with the environmental management system requirements, including not fulfilling the organisation's compliance obligations.
- The requirements of the Environmental Authorisations, EMP and the environmental specifications as they apply to the construction of the power station.
- Interventions on any other environmental matters, which are deemed to be necessary by TM.

- Awareness communications may be provided to TM Staff via but not limited to the following means:
  - Posters,
  - Environmental Bulletins,
  - Formalized PowerPoint Presentation Sessions, and
  - Verbally at TM staff Meetings.
- All retained documented information of environmental awareness shall be kept.

3.5.4 Communication

All environmental communications will be addressed under work instruction, Environment Communications (348-275237).

Table 8 below provides a summary of the communication process.

Table 8: Communication process

Content of the communication	Frequency	Audience	Communication method	Internal/External communication	Responsibility
Policy, Objectives, Significant Environmental Aspects	Annual	Team Medupi	Induction Awareness	Internal	TM env dept
		Contractors	Email	Internal	TM env dept
	Upon request or as they visit site	External stakeholders	Induction Email/formal letter	External	TM env dept
EMS processes/ Procedures	As and when there are changes effected on procedures	Team Medupi	Via email	Internal	TM env dept
		Contractors	Via email	Internal	TM env dept
Key Environmental Risks	Monthly	TM Management	Business review meeting	Internal	TM env dept
Environmental Performance	Monthly	Team Medupi	Mass Briefs & Email via Medupi Communication	Internal	TM env dept
		Contractors	Email (ECO Report) SHE contractors meeting	Internal	TM env dept
		Team Medupi Management	Mass briefs, Business Review, Weekly performance report	Internal	TM env dept
		Authorities, community reps	ECO report	External	ECO
	Annually	Funders	Annual environmental & social performance report	External	TM env dept

Content of the communication	Frequency	Audience	Communication method	Internal/External communication	Responsibility
	Quarterly	Authorities & community representatives	EMC meetings	External	TM env dept
Monitoring report (Air, water & dust)	Monthly	Team Medupi Contractors	ECO report	Internal	ECO
	Quarterly	Authorities Community Reps	EMC Meeting	External	ECO
	Monthly	Authorities Funders Community Reps	ECO report	External	ECO
Legal updates	Adhoc/ when there are changes	Team Medupi Contractors	Emails, Business Review meeting, Mass brief Awareness	Internal	TM env dept
Emergency incidents	As and when they occur	Authorities	Emails/formal notification letter EMC Meeting ECO monthly report	External	TM env dept
		Team Medupi	Emails/Massbrief/Awareness/SHE meetings, progress meetings	Internal	TM env dept
		Contractors	Emails Awareness	External	ECO
		Community Reps	EMC Meeting ECO monthly report	External	ECO
Complaints		Authorities	EMC Meeting ECO monthly report	External	TM env dept

Content of the communication	Frequency	Audience	Communication method	Internal/External communication	Responsibility
	As and when they occur	Team Medupi Contractors	Emails/Massbrief/Awareness/SHE meetings	Internal	TM env dept
Changes in Licenses/Permits/Authorisation	As and when they occur	Team Medupi Contractors	Emails Awareness Progress meetings	Internal	TM env dept

3.5.5 Documented Information

Environmental documentation shall be managed in accordance with Medupi Document and Record work instruction (348-883808). The Document Control Centre and Environmental Department must ensure that relevant versions of applicable documents are available at points of use, remain legible and readily identifiable. The Document Management Team must ensure that electronic documents are protected and regularly backed up. All EMS core work instructions/procedures are found and controlled on the Project Site's electronic document management system/s (EDMS) such as the OpenText system.

The Medupi Power Station project General Manager shall approve all EMS core documentation for adequacy. EMS Documents shall be reviewed, revised, updated and re-approved every three (3) years or as and when required.

Once a procedure has been authorised/ approved, the completely signed copy of the previous version must be archived by the Document Control Centre.

Previous versions of procedures are considered obsolete once reviewed and authorised procedures are available on the Project Site's EDMS. Destruction of obsolete documents shall be handled according to procedure 348-883808.

All environmental records generated during the life of the Project will be maintained by the TM and the relevant originating Contractor who will be responsible for the management, retention and archiving in terms of their own Record Control Procedures.

Documents of external origin will follow the site document control process which includes identification and control; these documents include but are not limited to:

- Calibration certificates.
- Accreditation records.
- International Standards.
- Lender's requirements.
- External audit reports.
- Letters/communication with authorities.
- Monitoring reports.
- Surveys and specialist studies reports.

Documented information of external origin determined by the project to be necessary for the planning and operation of EMS shall be recorded on the register template (348-10101392), unique identifier (348-10102065).

3.6 Operation

3.6.1 Operational planning and Controls

3.6.1.1 TM Operational controls

- TM shall develop Operational Controls during the life of the Project to address significant environmental aspects and certain environmental issues of concerns (e.g., waste management, rehabilitation plan, etc.) that affects the Medupi project. These specific operational controls shall be implemented when construction activities are undertaken. In addition,
- These Site-wide operation controls shall be communicated to Contractors in line with environmental communications procedure.
- Life cycle approach (cradle to grave) shall always form part of operational controls; effort shall be made to entrench the philosophy to all contractors/service providers and employees.
- Contractors shall develop their own site-specific operational controls to address environmental specifications stipulated in the EMP and applicable legislations.
- TM staff shall comply with Operational Controls and rules set in place by Contractors within specific Contractor-controlled work areas.

3.6.1.2 Control of outsourced processes

a. Project initiation

- TM environmental department outlines environmental requirements in relation to the proposed project.
- TM environmental department to ensure that environmental requirements are incorporated in the proposed project plan.
- TM environmental department to determine need for licencing.
- Apply for licences.

b. Concept and feasibility

- TM environmental department to provide environmental requirements based on the proposed scope.

c. Design & development

- Ensuring that environmental requirements are incorporated in design & development.

d. Tender documentation and procurement

- TM environmental department shall compile and issue a detailed environmental specification as per approved scope of work.
- TM environmental department shall be involved in tender review evaluation to assess compliance of potential suppliers to Medupi Power Station project environmental requirements.
- TM environmental department shall attend clarification meetings.
- Contractor signs a contract.

e. Contractor mobilisation

- TM environmental department to attend kick-off meetings.
- Contractor to provide environmental file for review and acceptance by TM environmental department before commencement with work. Environmental file shall be as per issued SHE specification provided in the procurement stage. Template (348-10082055) shall be used for the evaluation of the environmental file.

f. Contractor's operational controls

- Contractors shall develop their own Operational Controls as Employers in their own right, within their relevant scopes of work.
- Contractor Operational Controls shall as a minimum, comply with requirements of TM Operational Controls. It is important to note that Contractors are expected to adapt Project-Operational Controls to their specific Scope of Work.
- Contractors are required to submit site specific EMP, Operational Controls and Method Statements as specified by the Medupi EMP to TM and the ECO prior to commencement of work.
- Contractor EMP and Method Statement shall include the operation control methods to address the requirements of Project HSE Specifications, significant aspects, the Medupi EMP and applicable environmental legislations. Contractors Environmental File are reviewed and accepted by TM Environmental practitioner.
- The TM Environmental practitioner shall communicate acceptance/rejection of Contractor EMP / Method Statements to the relevant Contracts Manager, who will communicate such to the Contractor.
- The Contractor/service provider shall not be allowed to commence Works unless the Environmental Management Plans/Method Statements have been reviewed and accepted by the TM Environmental Department. Environmental requirements shall form part of the tender evaluation requirements; this shall form part of the life cycle approach where issues are addresses from cradle to grave. (e.g., raw material supplies, waste contractors, transporters etc.).
- TM Environmental may as part of the Life Cycle approach go as far as ensuring the suppliers, contractors' suppliers as well as other service providers are assessed, evaluated, or inspected on an ad-hoc basis to ensure due diligence as part of ensuring Environmental protection.
- Contractors shall keep latest copies of EMP and Method Statements.
- Method Statements for any new specific activity planned shall be submitted to TM Environmental practitioner and the ECO for review and acceptance as per practical timeframe agreements with the contractor prior to specific activity being planned to be undertaken.
- Contractors shall maintain registers as per their scope of work (e.g. non-conformance, legal register, complaints register, incident register etc.).
- Contractors shall develop an Environmental policy relevant to the scope of work.

- Contractors shall determine and develop the aspects and impacts register related to the scope of work. This shall be submitted to TM environmental department as part of monthly report.
- Contractors shall develop environmental objectives and planning to achieve them.
- Contractors shall consider all environmental legislations and may be required to obtain relevant environmental permits and licenses where necessary.
- Contractors shall conform to requirements of Medupi Power Station Project construction EMP (348-681011) and comply with the relevant Project Agreements and applicable statutory and regulatory requirements.
- Contractors shall ensure that their employees are provided with relevant environmental awareness and training. Training needs analysis/matrix shall be developed and implemented.
- Contractors shall develop an Emergency Preparedness Plan (EPP). Contractors shall conduct environmental emergency drills annually.
- Contractors shall conduct environmental inspections in their areas of responsibilities.
- Contractors shall submit weekly and monthly environmental performance reports.
- Contractors shall submit monthly waste report and waste records (Manifests, waste removal checklist, SDC, etc).
- Contractors shall conduct self-assessment.
- As part of addressing possible impacts of climate change, contractors shall include rain readiness in their processes.
- TM environmental department to conduct PC environmental audit as per audit schedule register (348-10094354) shared with contractors.
- TM environmental department shall have meetings with contractors to discuss environmental performance.

g. Project closeout

The below processes shall be done concurrently to avoid delay.

i. Disestablishment and rehabilitation

- Contractors shall submit disestablishment and rehabilitation plan/method statement for review and acceptance by TM environmental team and ECO.
- Contractors to execute disestablishment and rehabilitation as per approved plan/method statement.
- TM environmental department together with the ECO and contractor to conduct final disestablishment and rehabilitation inspection before site is handed back to Eskom.
- ECO to issue a close-out letter.

ii. Submission of Environmental file at the end of contract

- As part of contract closure, contractor shall submit environmental file with all documented environmental information gathered throughout the life of the contract.

- Environmental file shall be reviewed using evaluation of environmental file checklist template (348-10081756).
- Once TM environmental department is satisfied that all documented information is included in the environmental file, the file shall be closed off.
- The contractor shall then submit documented information to TM document management department for achieving. The format of the documented information shall be as per Documents and records management work instruction (348-883808).

h. Appointment of environmental practitioner/officer

Classification of activities:

Low risk activity - these are activities that will have a minimal impact on the environment and will not require an appointment of an Environmental Officer. For example, once-off deliveries, labour broking or providing staff (admin/office-based), supply, transportation and delivery, stationery and printing, consulting and auditing (admin-based), training and coaching/mentoring, event management (consulting, planning and logistics).

Medium risk activity - these are activities that have a potential to impact on the environment and will require SHE/Safety practitioner to be appointed. The SHE/Safety practitioner appointed must have at least one of the recognised environmental trainings, for example, Introduction to Environmental Management, waste management, Environmental Management Systems (EMS), environmental auditing, environmental law from a recognised service provider. These are non-construction contracts such as cleaning, vehicle maintenance, emergency services, fire and emergency equipment maintenance, supply, delivery, installation and maintenance of equipment.

High risk activity – these are activities that pose significant threats to the environment, including pollution, habitat destruction, etc. These activities can have far-reaching consequences for ecosystems and human health, necessitating rehabilitation, mitigation strategies and aftercare management, e.g. construction contracts. This will require the appointment of an environmental officer/practitioner.

Competence of contractor environmental officer/practitioner

- A contractor shall appoint a competent environmental practitioner as per scope of work.
- TM environmental department shall review the credentials of environmental practitioner before appointment.
- Based on evidence of competence provided, TM environmental department shall accept or reject proposed environmental practitioner.
- If environmental practitioner is rejected, contractor/service provider shall propose another practitioner for consideration.

The following minimum requirements shall apply:

- A related environmental tertiary qualification; National Diploma Environmental Science or management, BSc Environmental Science degree/ honours degree.

- The resource may be registered with a recognized professional body (e.g. SACNASP, EAPASA or etc.).
- As a minimum, two years working experience on construction site managing environmental compliance, monitoring, auditing and waste management.
- Working experience on reporting of environmental compliance.
- Working knowledge and relevant exposure to environmental management policies, standards, policies and legal compliance.
- Good writing and verbal communication skills in English.

3.6.2 Change Management

Medupi power station project control planned changes, and review the consequences on unintended changes, taking action to mitigate any adverse effects, as necessary.

a. Intended and unintended changes in an activity/ Introduction of new activity

- As soon as the TM environmental department is made aware of changes in activity or introduction of new activity by a process owner, TM environmental department in consultation with process owner shall assess if the action requires environmental licensing.
- Aspects and impacts, and risks and opportunities associated with the activity shall be determined.
- After assessment, TM communicate the outcome with the process owner.
- If licensing is required, TM shall initiate the licensing process.
- After receiving a licence (authorisation, permit etc.), it shall be communicated with process owner and contractors affected by the new license.
- TM shall capture the new license in the license and permit register template (348-10103381), unique identifier (348-678483).

b. Changes in legislation

- Changes in legislation is received from legal updates service provider and recorded in an online legal register maintained by external legal service provider.
- External legal service provider assesses the impact of the change to Eskom and communicate such changes on a monthly basis.
- TM environmental department communicate changes in legislation with TM via emails, business review meetings, SHE meetings etc.
- TM environmental department communicate legislation changes with contractors' vial MedupiEnvironment email.

c. Changes to maintained documented information

- Changes (creation, addition, deletion and / or revision) in maintained documented information shall be reflected on the document where changes are affected.

d. Changes in contractors' key personnel

- Contractors to inform the client of any intended or changes in key personnel before such change is implemented.

e. Handover of environmental processes (e.g. contract, monitoring activities etc.) to Gx

- GC environmental team shall notify Gx Environmental team of the intention to hand over the contract, etc.
- Meeting to discuss the intended handover shall be arranged between the two environmental teams.
- Minutes of the meeting, Email communication, internal memorandum, or any other document signed by two involved parties shall be used as proof of handover.
- Environmental department may also form part of the handover of the completed works by the project.

f. Changes in the scope of work

- When there is a need for changing the existing scope of work, the contract managers shall notify the cross functional teams (e.g. Environmental, Safety and Health, Quality) of an intended change. The cross functional team may revise/update SHE specifications to reflect intended change. If changes are made on the SHE specifications, it shall be communicated with the relevant contract manager.

3.6.3 Emergency preparedness and response

All emergency preparedness and response shall be addressed under Medupi Power Station Emergency Preparedness and Response (240-91688868). This is a joint Group Capital (GC) and Generation (Gx) work instruction for dealing with the station's emergency situations.

3.7 Performance evaluation

3.7.1 Monitoring, measurement, analysis and evaluation

3.7.1.1 Performance monitoring and measurement

3.7.1.1.1 Performance monitoring and measurement by TM

- Environmental Monitoring Requirements have been captured in the EMP, EMPr and specific procedures/work instructions/plans that considers the following:
  - The requirements of Legal and Other requirements (Legislation and associated registers, approvals, permits & licences (including the EMP and Record of Decision).
  - The requirements of section 4.9 of the Employers Policies and Procedures.
  - The requirements of level 1 and 2 Eskom procedures/ policies.
  - Team Medupi Environmental objectives and targets.
- Environmental monitoring and measurement Activities conducted by the Project are captured in the Environmental Monitoring Matrix Register template (348-10103099), unique identifier (348-628469).

- The Environmental monitoring requirements in each area of applicability:
  - Identifies the information to be obtained.
  - Specifies monitoring methods.
  - Identifies monitoring locations.
  - Specifies frequency of measurements.
  - Specifies standards.
  - Monitor the effectiveness of controls.
  - Identifies the means to report Monitoring and Measurement results.
- The monitoring methods includes, as appropriate:
  - Regular sampling & analysis consistent with Legal and Other Requirements.
  - Systematic observation of work and behaviour.
  - Regular monitoring and progress towards objectives and targets.
- Only accredited laboratories must be utilised for any scientific environmental analysis.
- Calibrate Monitoring and Measurement Equipment on a regular basis, as prescribed by the manufacturer of the equipment. The Environmental Department shall maintain such records.
- Medupi Power Station project communicates relevant environmental performance information both internally and externally, as identified in its communication process(es) and as required by its compliance obligation.

3.7.1.1.2 Performance monitoring and measurements by contractors

- Contractors shall define and execute their own Monitoring and Measurement Programmes in line with requirements of:
  - Section 4.9 of the Employers Policies and Procedures
  - As per the environmental approvals obtained from different spheres of government e.g. Medupi EMP, Water Use Licence, EMPr, Environmental Authorisations. Environmental approvals are listed on the Register of EA, RoD, License Permits, Certificates and Servitudes for Medupi Power Station project (348-687483).
- Applicable contractors shall submit Monitoring and Measurement results to the relevant TM Environmental Practitioner as part of the monthly report and be kept on file by contractors for auditing purposes.

3.7.1.2 Evaluation of compliance

Medupi Power Station project periodically evaluates and report on compliance obligations to relevant environmental legislation, regulation and other requirements (i.e. procedures, international standards, applicable interested parties' needs and expectations) by conducting planned internal and external audits as per audit programme/schedule number 348-10094354 (Principal contractors audit programme), template (348-10065383) and 348-63648 (Project audit programme), template (348-10061454).

A legal compliance evaluation is conducted at least every three years to ensure the organization's compliance with legal and other requirements that may be applicable.

Escalations of overdue findings are handled according to the Group Capital Division SHE Audit Management Standard, 39-33.

The Medupi Record of Decision (RoD) (Ref: 12/12/20/695) section 3.2.4 and various subsequent ROD's require that the Medupi Environmental Monitoring Committee (EMC), in conjunction with the developer, to appoint a suitably qualified Environmental Control Officer (ECO) who would on behalf of the EMC, on a daily basis monitor the project compliance with conditions of the Record of Decision, environmental legislation and recommendations of the Environmental Management Plan (EMP). The ECO will monitor compliance by conducting regular inspections and audits onsite.

Any other compliance may also be assessed through site inspections and routine sampling.

Non-compliances are reported and managed in accordance with Handling of Environmental non-conformities and Corrective Action (348-717865).

Non-compliance with legal and other requirements may be discussed and/or addressed at the relevant site meetings/forums.

Medupi legal and other requirements assessment results and trends are tabled at the relevant site meetings/forums.

3.7.2 Internal audit

Medupi Power Station project conducts internal audits at planned intervals to provide information on whether the EMS conforms Medupi Power Station project own requirements and the requirements of the ISO 14001 standard, and it is effectively implemented and maintained.

3.7.2.1 Audit Scheduling

- TM Environmental Department and the ECO shall prepare an Audit Programme prior to the onset of each financial year. This shows all the Environmental Audits planned for the project during the particular financial year. This Programme also includes all planned external audits which have an influence on the EMS.
- The Audit Programme will be updated as required and be distributed to the relevant managers.
- The Programme will be made available to the Medupi Risk and Assurance Manager.

3.7.2.2 Audit Notification and Preparation

- The relevant Auditee shall be notified at least 1 (one) week in advance of the audit using the Environmental Audit Plan, Schedule and the audit checklist.
- Formally distribute the specific Environmental Audit Plan, Schedule and audit checklist via relevant Contract Manager to the Auditee.
- Obtain Auditee applicable work documents.
- Perform Document Review to prepare audit activities and establish an overview of the extent of the system documentation to detect possible gaps.

Note: The ECO will utilise their own templates (with their company logo) for Audit Notification, Environmental Audit Finding Sheet and Audit Report.

3.7.2.3 Conducting the Audit Activities

- An Opening Meeting will be held with the Auditee's management and/or those responsible for the functions/processes to be audited.
- The following is discussed at the Opening Meeting, which is chaired by the (Lead) Auditor;
  - Introduction of the Audit Team and their roles.
  - Confirmation of the audit type, objective, scope and criteria.
  - Confirmation of the Audit Plan and Schedule.
  - Confirmation of communication channels.
  - Confirmation of previous audit findings if applicable.
  - Confirmation of the language to be used during the audit.
  - Explanation of audit method and sampling.
  - Explanation of method of reporting and follow-up protocols; and an opportunity for the auditee to ask questions.
- The (Lead) Auditor undertakes the audit (document review and fieldwork), following guidance from the Audit Checklist or the methodology followed. The fieldwork consists of observations and interviews of sampled activities and persons at the relevant work areas. The fieldwork will focus on finding evidence of conformity/compliance to relevant requirements, as listed in the Audit Checklist.
- All findings (good practices, opportunities for improvement and non-conformances/conformities) shall be listed on the Audit Report as applicable.
- All non-conformities/compliances (including those identified during Document Review) shall be recorded on the Nonconformance Action Form (NCA) (348-10100726).
- A Closing Meeting shall be held, attended by the Auditee and Client management and those responsible for the functions/processes to be audited.
- The following should be discussed at the Closing Meeting.
  - ✓ Present the summary of findings and explains the steps to close-out the findings.
  - ✓ Arrangements and logistics of reporting and follow-up.
  - ✓ Attendance registers must be kept as records.

3.7.2.4 Audit Reporting

The (Lead) Auditor will complete the Audit Report and the following sections thereof;

- Audit number.
- Audit scope.
- Auditee organisation name.
- Auditee name(s).

- Client organisation name.
- Date(s) of audit.
- Names of the Auditor(s).
- Executive Summary.
- Listing of audit non-conformities/compliances.
- Listing of identified Good Practices and Opportunities for Improvement.

The (Lead) Auditor will attach the relevant Nonconformity and Corrective Action Form, which will become a part of the Audit Report. The draft audit report will be submitted to the Auditee for comment within 14 days. The Auditee has 10 working days to comment. The Final Audit Report shall be issued within 10 working days after commenting period. If it is delayed, the reasons should be communicated to the auditee.

3.7.2.5 Audit follow-up and closure

- Audit findings, listed in the relevant Nonconformity Action form shall be followed up by the auditor.
- Opportunities for Improvement shall not be followed up but shall be used as input to the next audit of the Auditee.
- Once all Corrective Actions have been effectively implemented, the audit shall be listed as “closed” on the Environmental Audit Programme.

3.7.3 Management review

Top management supported by environmental management representative shall review organisation’s environmental management system at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

a) Information required for the management review process must be reported throughout the year through routine reporting mechanisms such as:

- Monthly reports by EMS Management representative/Environmental Department.
- Direct communication by the EMS Management Representative or Environmental Department with relevant Management Team members; and
- Project wide meetings e.g. Weekly management meetings, Progress Meetings, GE Mass briefings and Section HSE meetings/Main HSE meetings.

b) EMS Review Meetings will be conducted on an annual basis as per Eskom Financial Year.

c) The Environmental Policy will be reviewed at least three yearly to ensure continued alliance to its commitments and a view to possibly change, if required. The applicability of the Environmental Policy will be discussed at the Management review meetings.

d) Ad-hoc or interim EMS Review Meetings (Monthly Business Review) shall be convened to address specific concerns or to enable the Management Team to track the progress on any EMS related issue.

e) The management review committee will consist of the Medupi Power Station Project Management Team. The General Manager (GM) will chair the meeting; the GM can also delegate a representative of the Management team to chair the meeting on his/her behalf.

f) The presentation for the EMS Review Meeting shall address the following environmental issues:

- Follow-up actions from previous reviews.
- Environmental Policy.
- Environmental Objectives and Targets.
- Compliance obligations.
- Changes in External and Internal issues.
- Needs and expectations of interested parties.
- Significant aspects.
- Risks and opportunities.
- Audits and Assessment Findings including overdue actions and management thereof.
- Incidents and Complaints.
- Interested and Affected Parties.
- EMS Progress/Performance.
- Adequacy of resources.
- Relevant communication(s) from interested parties, including complaints.
- Opportunities for continual improvement.
- Changing Conditions/Circumstances.
- Recommendations for Improvement.
- Adequacy and applicability of the system to the current state of project works.
- Any other issue that can have a material impact on the outcome of the EMS.

g) Outcome of the Management review shall include the following:

- The observations, conclusions, recommendations and actions arising from the EMS Management Review Meeting/s, as well as target dates for completion of actions, shall be minuted and distributed to those needing to action them.
- Decisions related to continual improvement if any.
- Resource changes if any.
- Copy of the minutes of the EMS Review Meeting shall be signed off by the GM and indicating managements' approval as to the adequacy, suitability and effectiveness of the EMS.

Ad-hoc/interim EMS Management Review Meetings (Business Reviews) do not need to follow the set agenda as set out above.

3.8 Improvement

3.8.1 General

TM determines and selects opportunities for improvement and implements necessary measures to achieve the intended outcomes of its EMS.

The following are some of the examples of triggers of opportunities for improvement:

- Lessons learnt.
- Customer complaints/feedback.
- Risks and opportunities.
- Audit findings.
- Trends in Non-conformities and Corrective actions.
- Incidents statistics.
- Training requirements.

Environmental Improvement projects shall be captured on template (348-10115829).

3.8.2 Non-conformance and corrective actions, and Incident Management

3.8.2.1 Nonconformance and corrective actions

3.8.2.1.1 Identification, recording and registration of Nonconformance

- A (Potential) Non-conformity (ies) is/are detected through various means including inspections, audits (internal and external), complaints, issues raised by external parties and etc.
- Details of the relevant (Potential) Non-conformity (ies) are recorded on the NCA Form (348-10100726).
- The originator/initiator shall provide relevant information on the NCA Form to the System administrator/ Environmental co-ordinator so that such non-conformity shall be captured on the NCA Register.
- Once the NCA form has been completed, it shall be issued to the identified Respondent within five (5) days. Where such Respondent is a Contractor, such issuance shall be done through the relevant Contract Manager.
- The respondent shall respond with immediate action taken to remedy the nonconformity, root causes of the nonconformity and proposed corrective action to address the root cause.
- If corrective action(s) are sufficient, the initiator will accept proposed corrective actions and then the implementor will then implement them.
- The originator will monitor the implementation of corrective actions and verify its effectiveness.
- When corrective actions are effective, Non-conformance will then be closed.

3.8.2.1.2 Identification of Root Cause and appropriate Action

- A Root Cause identification activity using a recognised root causes analysis process shall be undertaken and these root causes completed on the NCA form.

Note: Where the respondent is internal to Team Medupi, 5Whys or RCAT shall be used for the root cause identification process. Where the respondent is within a Contractor organisation, a recognised root cause analysis process shall be used for the root cause identification process.

- Immediate actions shall be identified that are appropriate in addressing the actual impact/risk effect/non-conformances.
- Corrective actions shall be identified that are appropriate in addressing the root cause(s) to prevent re-occurrence or occurrence, as per the identified actual or potential non-conformance. Such Actions shall be recorded on the NCA form, including which items of evidence shall be available and a completion date.
- The Respondent shall return the completed NCA form manually to the Initiator/Originator within five (5) working days of receipt and following the applicable Document Control process.
- Where the Respondent does not provide the completed NCA form within the required timeframe, the Originator shall escalate such to the TM Environmental Manager.
- The Originator shall review the completed NCA form with the view to confirm whether;
  - Appropriate root cause analysis process was used in the root cause identification.
  - The identified Root Cause(s) are accurate in relation to the stated non-conformity.
  - The identified Actions would address the identified root causes effectively and efficiently.
  - Appropriateness of the completion dates.
  - Such review shall take place within five (5) working days of return by the Respondent.

***Note: The Contract Manager shall be consulted in cases with Cost and Schedule implications through application of Corrective Actions*.**

- Where the Originator does not accept the proposed corrective actions submitted on NCA form, such will be returned to the Respondent to update within five (5) working days.

3.8.2.1.3 Action and Review

- The Respondent undertakes the agreed Actions and submits record of such actions to TM Environmental Department.
- The initiator reviews the Actions undertaken, within five (5) days of the last target completion date. Such review should ascertain.
  - Whether Actions have been taken
  - Whether the Actions have been successful in addressing the root causes.
  - Outcomes of this review shall be captured on the applicable NCA form.

3.8.2.1.4 Overdue and Escalations

- NCA's will be escalated or regarded as overdue based on the scenarios outlined below.
- If the respondent fail to respond to NCA within 5 working days of receipt.

- If some work was performed, however, not as agreed.
- If the respondent fails to implement corrective actions withing the agreed timeframes.
- Once the originator becomes aware that one of the scenarios depicted on the figure below has not been met, he/she should escalate the matter to the General Manager and/or the Contracts Manager (in the case of Contractors) within ten (10) days.
- The Initiator to ensure timeframes for sending out NCA as well as responding to proposed corrective actions are handled within the stipulated timeframes to prevent delays.
- Should the respondent still fail to adhere or respond to the above-mentioned escalation process the matter will be escalated to the General Manager/Contract Manager.

3.8.2.1.5 Process for requesting Extension

- Where the contractor /TM respondent is aware that the timeframes to implement preventative/corrective actions will not be met, and that extension or change of dates will be unavoidable, the respondent should request an extension of due dates through a motivation letter submitted to TM Environment through the Contracts Manager at least 14 days prior to the due date. The motivation letter requesting for an extension of the target dates must be signed off by the highest level of authority from the Contractors side and accepted by the Environmental Manager and/or Contracts Manager.
- For findings reported to GCD SHE, once change of dates has been approved internally, motivation must be submitted to their office as per GCD reporting requirements outlined in procedure 32-172.

3.8.2.1.6 Closure of NCA

- All NCA should be closed within 60 days of receipt by the respondent except for the long-term actions where these have been agreed between the respondent and the environmental practitioner.
- Where found that Actions have been undertaken, and these effectively address root causes the NCA form shall be completed by signature.
- The completion of the NCA form shall be communicated to the relevant Environmental System Administrator so that the NCA Register may be updated to reflect status “Closed”.
- Records of Corrective and Preventive Action shall be utilised as input to EMS Management Review

3.8.2.1.7 Reporting on the status of Audit Findings

- The initiator shall track NCA and submit the status to the TM Environmental Manager on a monthly basis.
- The Breaches register is used as a reporting tool to head office/Construction SHEQ department on a monthly basis.
- Progress on the actions relating to findings close-out is tracked monthly basis and recorded on the Breaches register.
- All overdue actions plans where dates have been extended are also recorded.

- A motivation to request extension of target dates and action plan with reasons for requesting extension of dates to be signed by the General Manager Projects and further approved by GCD SHEQ and Sustainability.
- Breaches register as well as the related action plan form part of both the Business Review meetings as well as the Management Review meeting discussions
- The tracking of the Engineering and Construction related findings and progress on the breaches register to also align with the monthly OMAC report to ensure the latest version of dates and progress.
- On a monthly basis Assurance managers perform a follow-up from business units on the status of findings (Assurance Report).
- On a quarterly basis a status update with regards to all audit findings, audit project scheduled and results from follow-up must be reported to the Audit and Risk Committee by the Assurance department.

3.8.2.1.8 Nonconformity raised by external auditors, Eskom GC-GSHEQ, or any other stakeholder

A nonconformity raised by an external auditor, GC-GSHEQ or any other stakeholder shall be recorded on either the relevant Auditor's NCR Forms or an action plan or an internal NC form.

3.8.2.2 Incident Management

Environmental incident management will be addressed under procedure for Environmental Incident Management (348-693723).

3.8.2.2.1 Incident Notification

- All incidents must be reported. Notify the TM Environmental Practitioner/Manager immediately after becoming aware of the incident occurrence.
- Provide the following information for this initial notification:
    - Date
    - Time:
    - Place:
    - Brief description of what happened:
    - Immediate actions taken:
- Convey the above information in person, telephonically, via SMS, by email etc., whichever is appropriate at the time. Photographic evidence and preliminary findings may also be included in the initial notification.
- EWT will register wildlife incidents on EWT's Central Incident Register (CIR) System and provide an incident number as a reference to the relevant individual or OU/BU reporting the incident

3.8.2.2.2 Incident Reporting

- Principle Contractors must complete a Flash Report before end of the shift.

- The TM Environmental Practitioner shall in case of any incident involving activities associated with Team Medupi complete a Flash Report within 24hrs after which an incident occurred.
- The Flash Report shall be completed by filling in all required fields.
- When submitting Flash Reports relating to spillages such shall be accompanied by a completed Spill Assessment form (348-10115765).
- The relevant TM environmental practitioner shall immediately review information provided by the contractor on the Flash Report. Where it is found that any data is incorrect or incomplete, such practitioner shall reject the Flash Report and provide reasons for such rejection. Once the relevant TM environmental practitioner is satisfied with information provided, he/she shall accept the flash report within 24 hours.
- Once the Flash report has been accepted, TM Environmental Department shall capture and record it on SAP EHS (for all incidents that meet SAP reporting criteria). It should be noted that ERI packages are responsible to load their incidents on SAP EHS.
- In case of potential legal contravention incidents as well as the NEMA S30 and NWA S20 incidents, the Divisional or subsidiary Environmental Management Department to be notified as well as the Sustainability Systems Environmental Management Department (SS: EM) as required.
- If a EWT incident is perceived to have the potential to affect the external stakeholders i.e. interested parties as identified in terms of the site EMS such as neighbouring farmers, communities, Eskom Lenders etc. They need to be notified accordingly.
- The Reporting of Environmental Incidents to different management levels as per their Priority rating:
    - Low - to be reported to Middle Manager and Environmental Practitioner level
    - Moderate - to be reported to OU/BU Management, OU/BU Environmental Manager and/ Practitioner
    - High - to be reported to OU/BU Management, OU/BU Environmental Manager and/practitioner, as well as the EEIC representative and SS: EM.

3.8.2.2.3 Incident Investigation

- The Contractor or TM shall undertake investigations of environmental incidents in accordance with the priority ratings as outlined below (i.e. for Low, Moderate, High and Extreme). Where multiple parties are involved (either contractors or Generation), all parties will be invited to be represented on the investigation team and a combined investigation will be conducted.
- **Low:** A basic investigation (Assessment) that determines the direct cause of the incident to be initiated within 7 (seven) working days and completed within 30 (thirty) calendar days.
- Note: A basic assessment shall be carried out for low and minor incidents and an investigation may be required if there are multiple repeats of minor incidents or a minor incident could have resulted in a more serious consequence should other circumstances have prevailed; such instances will be determined on a case-by-case basis by TM Environmental Practitioner.
- **Moderate priority:** An investigation that determines the apparent cause including processes and organisational issues (evaluation) shall be initiated within 7 (seven) working days of occurrence of the Incident and completed within 30 (thirty) working days.

- **High Priority:** A full detailed investigation to establish the causes, including root causes and /or organisational weaknesses of the incident and the appropriate preventive and corrective actions (analysis) to be initiated within 48hrs and completed within 45 (forty-five) calendar days.
- **Extreme priority:** A full detailed investigation to establish the causes, including root causes and /or organisational weaknesses of the incident and the appropriate preventive and corrective actions (analysis) to be initiated within 24 hours, and completed within 45 (forty-five) calendar days.
- Where an incident is classified as NEMA Section 30 and/or NWA Section 20, the responsible Contractor shall compile and submit the NEMA Section 30 and/or NWA Section 20 report and investigation report within 7 working days of occurrence to TM Environmental Department.
- TM Environmental Department shall review and submit the final signed NEMA Section 30 and/or NMW Section 20 incident report within 14 working days of occurrence to three spheres of government (DFFE, LEDET, DWS and LLM).
- Where an incident is classified as an Environmental Legal Contravention or an Environmental Legal Contraventions a result of significant business failure, the incident must be reported to the EEIC via divisional EEIC representative within the same month the incident occurred where reasonably practical.
- The EEIC representative shall be informed of the outcome of all Major Incident investigations to determine and verify the status i.e. Environmental Legal Contravention Incidents and Environmental Legal Contravention Incidents as a result of significant business failure.
- Records pertaining to the Incident and Investigation thereof shall be uploaded on SAP, which shall act as the record repository.

3.8.2.2.4 Incident Close-out

- The close-out is the final step of the incident management process. The action of closing out an incident signifies that all corrective actions have been effectively implemented, lessons learnt effectively communicated, all relevant documents attached and verified by TM Environmental Practitioner.

3.8.3 Continual Improvement

TM continually strives to improve the EMS through rigorous application of its Environmental Policy and objectives and targets, internal audits, risks and opportunities action plans, analysis of data, corrective and preventive actions, and management reviews.

4. Process for Monitoring

4.1 Key Performance Areas and Indicators

The following Key Performance Areas / Indicators (KPAs/KPIs) shall be measured, analysed and reported. The Process Owner shall be accountable and assign the responsibility at the frequency as indicated below, documented as part of the QMS measurement, analysis and improvement initiative.

Table 9: KPAs/KPIs

Key Performance Area	**Key Performance Indicator**	**Target**	**Measure Frequency**	**Responsible**	**Record**
Identification of aspects in relation to the Project	Updated Aspect & Impact register in place	100%- updated Aspect & Impact register for the project & contractors are in place	Annually	TM Environmental Department and Contractors	Aspect and Impact Register
Legal register	Current/Updated Legal Register available	Legal register 100% updated	As & when required	TM Environmental Department	Updated Legal Register
Environmental Objectives and planning to achieve them register	Signed environmental objectives	100%	Annually	TM Environmental Department	Environmental objectives register
Environmental Staff competencies	Training records and performance appraisals	100% training records & performance appraisal in place	Annually	Environmental Practitioner	Training records and performance appraisals
TM Environmental Awareness and training	Distribution of awareness material and attendance of planned training	100%	Annually	Environmental Practitioner	Awareness material, training records and proof of Communication
Contractor environmental awareness, training and competencies	Induction attendance registers and toolbox talks attendance registers	100%	Annually		

Key Performance Area	**Key Performance Indicator**	**Target**	**Measure Frequency**	**Responsible**	**Record**
Environmental communications from I&AP's	Communications acknowledged within 24 hours of receipt	100% of Communications acknowledged within 24 hours of receipt	As per communication	TM SHE Manager	Environmental Communications Register and Complaints Register
All Contractor-required Documentation in place	EMP and Method Statement Plans approved prior to Contractor Works commencement.	Review and approve contractors Environmental file 100% for newly appointed contractors	As applicable	Environmental Practitioner as per unit area	Acceptance and Comments Documentation
Environmental Monitoring and measurement Requirements	Monitoring programmes in place and adhered to	100%	Monthly	Environmental Practitioner as per unit area	Monitoring Reports
Environmental audits undertaken	All Audits undertaken as required	75% Audits conducted as per Audit schedule	Quarterly	Environmental Practitioners and ECO as per allocated Unit Area	Audit Reports
	Audit findings raised and cleared within timeframe stipulated	60 days	Quarterly	Environmental Practitioners and ECO as per allocated Unit Area	Closed NCA and updated action plan register
Management Review	Meetings conducted	100% planned meetings conducted	Annually	Health, Safety and Environmental Manager	Meeting Minutes
Effective Corrective Action	Corrective Action undertaken by due date	80% of corrective actions undertaken within target completion date	Monthly	Environmental Practitioners/ ECO's	NCA raised and NCA Register

Key Performance Area	**Key Performance Indicator**	**Target**	**Measure Frequency**	**Responsible**	**Record**
All Incidents reported to the TM and reported timeously	Initial notification	Immediately	Every incident	Contractors	Communication records
	Report all incidents	Before end of shift	Every incident	Contractors	Flash report
	All Incidents reported on SAP	24hrs	Every incident	Environmental Practitioners (TM/ERI)	SAP register
Updated EMS documentation	Current manual relevant and available	100%	Three (3) yearly or as required	EMS coordinator/administrator	Reviewed and management signed-off documentation
Revision of Document	Revision requirements in line with Medupi Procedures 348-653867 "Development and Change of Medupi QMS Documents" and 348-883808 "Document and Record management"	100%	Three (3) yearly or as required	EMS coordinator/administrator	New revised document

4.2 Document Review and Self-Assessment

4.2.1 Document Self-Assessment

The "Process Owner" identified on the front page of this document along with departmental personnel and the project QMS Engineer shall undertake a "self-check" review of the process defined in this document at six monthly intervals, commencing from the effective date of this document, to check:

a) the process / procedure operational integrity.

b) process efficiency.

c) the level of stakeholder knowledge and implementation.

Participants and results of the "self-check" review shall be documented by the Process Owner in the "Self-Assessment Checklist" ***(Template No. 348-655890)*** included as an Appendix to this document which shall be submitted via SharePoint to Medupi Documentation Department Help Desk by the Process Owner once completed.

Process Owner shall proceed with any revision requirements in line with Medupi Procedures, **348-653867** "Development and Change of Medupi QMS Documents" and **348-883808** "Document and Record Management".

4.2.2 Review Period

All QMS documents shall undergo a 3-yearly compulsory review.

4.3 Training Requirements

No project specific training required to implement the process documented in this document beyond normal job function.

5. Acceptance

This document has been seen and accepted by:

Name	Designation
N Khuzwayo	Safety, Health & Environmental Manager
Z Shange	General Manager-Medupi GC
L Ndhlovu	Quality Assurance Manager

6. Revisions

Date	Rev.	Compiler	Remarks
June 2025	Rev 09	Ndivhuho Nengobela	Align EMS Scope and Manual with ISO14001:2015 requirements. Added a table of communication changes. Added outsourced processes and change management process. Removed 348-687105 Medupi Identification and Application of Environmental operational Controls Procedure, 348-862555 Environmental Performance Monitoring and Measurement Procedure, 348-686923 Medupi Environmental Objective, Targets and Programs Procedure, 348-690968 Environmental Training, Awareness and Competence Procedure, 348-694924 Environmental Legal and Other requirements Work Instruction that were referenced in the document.
July 2024	Rev 08	Sakutanya Mamabolo	ISO 14001:2015 Internal Audit Findings Correction Action
February 2022	Rev 07	Mumsy Boshomane	Minor reviews to address the 2021 Peer review doc control findings regarding the new ref number for the Emergency preparedness and response work instruction, as well as minor other admin changes e.g. Management change

7. Development Team

The following people were involved in the development of this document:

- Ndivhuho Nengobela
- Sakutanya Mamabolo
- Dovhani Mudzielwana
- Humbelani Magau
- Ntahli Khuzwayo

Appendix A – Process Self-Assessment Checklist

Eskom	MEDUPI POWER STATION PROJECT	Template Identifier	348-655890	Rev	3
		Document Identifier	xxxxx	Rev	xx
		Effective Date	February 2025		
		Next Review Date	February 2030		

TITLE: Document Self-Assessment Checklist

Discipline: Environmental Management	Applicable Document No.: 348- 882048	Self-Assessment Date:

Item No	Ref Section	Self-Assessment Question	Compliant			Comment
			Yes	Part	No	
1	3.1.3	Does the Project outline the Scope of the EMS				
2	3.5.1	Are the contractors' method statements and procedures reviewed and influenced by Medupi Power Station Project's Site Environmental Department?				
3	3.4.5	Are Environmental documentation managed in accordance with Medupi Project's Document and Record Management Procedure (348-883808)?				
4	3.4.5	Are all EMS core procedures found and controlled on the Project Site's electronic document management system/s such as the shared Hyperaware and/or SPO system.				
5	3.4.5	Does the Medupi Power Station Project's General Manager approve all EMS core procedures documentation for adequacy?				

6	3.4.5	All procedures are reviewed, revised, updated and re-approved annually or sooner if required.				
7	3.4.5	Are previous versions of documents archived?				
8	3.4.5	Are previous versions of documents that are not archived, destroyed to prevent unintentional use?				
9	3.4.5	Are Environmentally related procedures/method statements from other Departments or Contractors assessed and accepted by the Medupi Power Station Project Environmental Department?				
10	3.1.1	Are the external and internal issues that are relevant to its purpose and that affect its ability to achieve the intended outcomes of its EMS determined?				
11	3.1.2	Has the organisation determined interested parties that are relevant to the EMS?				
12	3.1.2	Has the organisation determined relevant needs and expectations of these interested parties?				
13	3.1.2	Has the organisation determined which of these needs and expectations become its compliance obligations?				
14	3.1.1	Has the organisation considered climate change when determining internal and external issues and compliance obligations?				
15	3.2.2	Is the Policy reviewed and approved?				
16	3.2.2	Is the Environmental Policy displayed at various conspicuous places on the Medupi Power Station Project premises?				

17	3.2.2	Are people working for, or on behalf of, the Medupi Power Station Project made aware of the Environmental Policy?				
18	3.2.2	Is the Environmental Policy made available to the public on request?				
19	3.2.2	Does the TM Environmental Manager discuss the Environmental Policy in management review meetings to ensure that the policy is applicable, current and adhered to by all employees and contractors?				
20	3.2.3	Are responsibilities and authorities for relevant roles assigned by Top Management and communicated within the organisation?				
21	3.3.1	Are the risks and opportunities related to project's environmental aspects, compliance obligations, and other issues and requirements in external and external issues and internal stakeholders?				
22	3.3.1	Are potential emergency situations including those that can have an environmental impact determined within the scope of EMS?				
23	3.3.1	Is documented information for risks and opportunities maintained?				
24	3.3.1	Are the environmental aspects of Medupi project activities, products and services that it can control and those that it can influence, and their associated environmental impacts determined, and life cycle perspective considered?				
25	3.3.1	Are those aspects that have or can have a significant environmental impact determined by using established criteria?				
26	3.3.1	Is the documented information for environmental aspects and associated impacts, criterial used to determined significant environmental aspects and significant environmental aspects maintained?				

27	3.3.1	Has the project determined and have access to compliance obligations related to its environmental aspects?				
28	3.3.1	Has the project determined how these compliance obligations apply to the project?				
29	3.3.1	Were these compliance obligations taken into account when establishing, implementing, maintaining and continually improving project environmental management system?				
30	3.3.1	Has the project planned to take actions to address significant environmental aspects, compliance obligations and risks and opportunities?				
31	3.3.2	Are environmental objectives established at relevant functions and levels, taking into account the organisation's significant environmental aspects and associated compliance obligations, and considering its risks and opportunities?				
32	3.3.2	Are environmental objectives consistent with environmental policy, measurable, monitored, communicated and updated as appropriate?				
33	3.3.2	Is documented information on the environmental objectives maintained?				
34	3.3.2	Has the project considered how actions to achieve its environmental objectives can be integrated into the organisation's business process?				
35	3.4.1	Has the project determined and provided the resources needed for the establishment, implementation, maintenance and continual improvement of the environmental management system?				

36	3.4.2	Has the project determined the necessary competence of person(s) doing work under its control that affects environmental performance and its ability to fulfil its compliance obligations?				
37	3.4.2	Are the training needs associated with project environmental aspects and its EMS determined?				
38	3.4.2	Is the documented information as evidence of competence retained?				
39	3.4.2	Has the project ensured that persons doing work under the project's control aware of environmental policy, significant environmental aspects and related actual or potential environmental impacts associated with their work; their contribution to the effectiveness of the EMS, including the benefits of enhanced environmental performance, the implications of not conforming with the EMS requirements, including not fulfilling the organisations compliance obligations?				
40	3.4.4	Is the communication process established, implemented and maintained?				
41	3.4.4	Has the organisation taken into account its compliance obligations, ensure that environmental information communicated is consistent with information generated with the EM, and reliable when establishing its communication process?				
42	3.4.4	Does the project/organisation respond to relevant communications on its EMS?				
43	3.4.4	Is documented information as evidence of its communications, as appropriate retained?				

44	3.4.4	Does the organisation internally communicate information relevant to the EMS among the various levels and functions of the organisations, including changes to the EMS, as appropriate?				
45	3.4.4	Does the organisation externally communicate information relevant to the EMS, as established by the organisation's communication process (es) and as required by its compliance obligations?				
46	3.5.5	Is the documented information required by EMS and by International Standards controlled?				
47	3.5.5	Is documented information of external origin determined and controlled?				
48	3.5.1	Has the organisation established, implemented, controlled and maintain the processes needed to meet environmental management system requirements and to implement the actions identified in Risk and Opportunities and environmental objectives?				
49	3.5.2	Are the planned changes controlled, and the consequences of unintended changes reviewed?				
50	3.5.1	Are outsourced processes controlled and influenced?				
51	3.5.1	Has the organisation maintained documented information to the extent necessary to have confidence that the processes have been carried our as planned?				
52	3.5.3	Is the emergency response plan reviewed and updated?				
53	3.5.3	Is the environmental emergency drill for the financial year conducted?				

54	3.6.1	Has the organisation maintained documented information to the extent necessary to have confidence that the process(es) is (are) carried out as planned?				
55	3.6.1	Has the organisation monitor, measure, analyse and evaluate its environmental performance?				
56	3.6.1	Has the organisation determined: a. what needs to be monitored and measured b. the method of monitoring, measurement, analysis and evaluation, as applicable to ensure valid results c. the criteria against which the organisation will evaluate its environmental performance, and appropriate indicators d. when the monitoring and measuring shall be performed e. when the results from monitoring and measurement shall be analysed and evaluated				
57	3.6.1	Does the organisation ensure that calibrated or verified monitoring and measurement equipment is used and maintained, as appropriate?				
58	3.6.1	Does the organisation evaluate its environmental performance and the effectiveness of the EMS?				
59	3.6.1	Does the organisation communicate relevant environmental performance information both internally and externally, as identified in its communication process(es) and as required by its compliance obligations?				
60	3.6.1	Is appropriate documented information as evidence of monitoring, measurement, analysis and evaluation retained?				
61	3.6.1	Is the process needed to evaluate fulfilment of its compliance obligations established, implemented and maintained?				

62	3.6.1	Has the organisation determined the frequency that compliance will be evaluated?				
63	3.6.1	Has the organisation evaluated compliance and taken action if needed?				
64	3.6.1	Has the organisation-maintained knowledge and understanding of its compliance obligations?				
65	3.6.1	Has the organisation retained documented information as evidence of compliance evaluation result(s)?				
66	3.6.2	Is the internal audit programme/schedule in place, communicated and updated? Has the organisation retained documented information as evidence of the compliance evaluation result				
67	3.6.2	Is the organisation conducting internal audits as planned?				
68	3.6.2	Does the organisation retain documented information as evidence of the implementation of the audit programme and the audit results?				
69	3.6.3	Is management review conducted at planned intervals to ensure its continuing suitability, adequacy and effectiveness?				
70	3.6.3	Has the organisation retained documented information as evidence of the results of management review?				
71	3.7.1	Has the opportunities for improvement determined and necessary actions implemented to achieve the intended outcomes of its EMS?				
72	3.7.2	Is the nonconformity identified, recorded in the nonconformity form and issued to the respondent as per nonconformity process?				

73	3.7.2	Does TM environmental department review issued conformity form?				
74	3.7.2	Does the organisation retain documented information as evidence of the nature of the nonconformities and any subsequent actions taken and results of any corrective actions?				
75	3.7.2	Are incidents handled inline with Medupi incident management processes?				
76	3.7.3	Does Medupi Power Station project continually improve the suitability, adequacy and effectiveness of the EMS to enhance environmental performance?				

Comments: None				
Self-Assessment by:	Name:	Position:	Revision Required? (Yes / No)	Planned Revision Date:
Attendees:				