	<b>Work Instruction</b>	<b>Transmission</b>
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MANAGEMENT PLANS  
REQUIREMENTS**

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## **1. Introduction**

Transmission takes into account life cycle perspective, for planned, unplanned, new and modified activities, products and services, abnormal conditions and emergency situations when determining environmental aspects that it can control and those that it can influence. Since the applicable life cycle stages vary depending on respective BU activity and service provision, each BU determine environmental aspects individually within the Transmission EMS scope. The identification of significant environmental aspects is the foundation for identifying risk and opportunities, and establishing meaningful objectives and targets that are measured as indicators of environmental performance.

This work instruction describes the process to:

- Identify the environmental aspects of Transmission Division's activities, products, and services that it can control and influence, which lead or could lead to environmental impacts, considering a life cycle perspective within the defined EMS scope (240-102590820).
- Address significant environmental aspects, and their associated compliance obligations considering its risks and opportunities.
- Control and mitigate environmental impacts through the development of environmental management plans to achieve set objectives.
- Manage the identified aspects taking cognisance of changes in the organisation, legislation and technological options and resources availability.

## **2. Supporting Clauses**

### **2.1 Scope**

#### **2.1.1 Purpose**

The purpose of this document is to:

- Standardise the methodology for identifying the environmental aspects of Transmission Division's activities, products and services within the defined EMS scope (240-102590820) that it can control and influence, which lead or could lead to environmental impacts, considering life cycle perspective.
- Control and mitigate environmental impacts through the development of environmental management plans to manage the identified aspects taking cognisance of changes in the organisation, legislation and technological options and resources availability.

#### **2.1.2 Applicability**

This work instruction shall apply to all Transmission Business Units.

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### **2.1.3 Effective date**

This document shall be effective from the authorisation date.

## **2.2 Normative/Informative References**

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

### **2.2.1 Normative**

- [1] ISO 14015, Environmental Management - Environmental Assessment of Sites and Organisations (EASO)
- [2] National Environmental Management Act, 107 of 1998
- [3] 240-102590820: Transmission Environmental Management System Manual
- [4] Eskom Intranet legal register
- [5] ISO 14001: 2015. Environmental Management System – Specification with guidance for use
- [6] 240-91214073: SHE Compliance Obligations and Evaluation of Compliance Procedure
- [7] 240-76628703: WIRES PLCM
- [8] 32-736: Land and Biodiversity Policy
- [9] 32-815: Biodiversity Standard
- [10] Occupational Health and Safety Act 85 of 1993
- [11] 32-727: Eskom Safety, Health, Environmental and Quality Policy.
- [12] 240-180100134 Environmental Requirements for Contractors and/or Suppliers
- [13] 240-131566734 Transmission Environmental Management Programme (EMPr Service Providers)
- [14] 240-131655011 Aspects Register
- [15] 240-131562376 Transmission Environmental Management Programme (EMPr Operational)

### **2.2.2 Informative**

- [16] ISO 9001:2015 Quality Management Systems.
- [17] ISO 14001:2015 Environmental Management Systems- Requirements with guidance for use

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## 2.3 Definitions

The definitions provided in ISO 14001: 2015, Environmental Management Systems-Specification with guidance for use shall apply.

Definition	Explanation
Environmental Impact	Any change to the environment, whether adverse or beneficial, wholly, or partially resulting from an organisation's environmental aspects.
Environmental Authorisation	Authorisation obtained from a competent authority responsible for authorising listed activities in terms of the National Environmental Management Act No 107 of 1998.
Environmental Management Programme (EMPr Service Providers)	It is a programme/plan of action for achieving organisational objectives relating to the mitigation of environmental impacts of its activities, products, and services.
Environmental Management Programme (EMPr Operational)	A programme for achieving organisational objectives and targets relating to mitigation of the environmental impacts of an organisation's activities, products, and services.
Project	Means an activity or a group of activities that has a defined start and end date, a defined scope, and as defined sum of money allocated to complete the activities.
Project Life Cycle	The project life cycle is a step-by-step framework of best practices used to manage a project from its beginning to its end. It provides Project Managers a structured way to create, execute, and finish a project.
Environmental Performance	The measurable results of an organization's management of its environmental aspects.
Organisation	A company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration.  <b>Note: For organisations with more than one operating unit, a single operating unit may be defined</b>
Document Controlled Disclosure	Controlled disclosure to external parties (either enforced by law or discretionary).
Environmental Management System	Is a system which integrates policy, procedures and processes for training of personnel, monitoring, summarizing, and reporting of specialized environmental performance information to internal and external stakeholders of an organisation.

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### **2.3.1 Document:**

## **2.4 Abbreviations**

<b>Abbreviation</b>	<b>Explanation</b>
BU	Business Unit
BUER	Business Unit Environmental Representative
EMPr	Environmental Management Programmes
EIA	Environmental Impact Assessment
EMS	Environmental Management System
KPI	Key Performance Indicator
PCM	Process Control Manual
TEOF	Transmission Environmental Operations Forum
TEXCO	Transmission Executive Committee
TX	Transmission
ISO	International Organisation of Standardisation

## **2.5 Roles and Responsibilities**

- The Business Unit Manager with the assistance of the BUER will be accountable for the implementation of this document.
- The environmental management system representative is responsible for implementing this document.
- BU managers shall be accountable for the development and implementation of the actions to achieve its environmental objectives in their respective areas in line with the set KPI's.
- BU Managers cannot delegate accountability for compliance to the individual contractor and its sub-contractors.
- BU manager must communicate significant environmental aspects within the BU as appropriate.

## **2.6 Process for Monitoring**

Each Business Unit shall conduct and review environmental aspects and action plans at least after three years and/or when an emergency relating to that aspect has occurred and/or when there is a new activity in the organisation or any changes to legislation.

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The results of monitoring should be analysed and used to identify areas of good performance as well as those requiring corrective action.

## **2.7 Related/Supporting Documents**

- 240-131655011: Environmental Aspect Register Template
- 240-131562376: Transmission Environmental Management Programme Template (Operational)
- 240-131566734: Environmental Management Programme Template for Service Providers
- 240-101201031: Transmission Projects Site Handover Environmental Management

## **3. Document Content**

### **3.1 Aspect Register**

The aspect register incorporates environmental aspects of Transmission BU's activities, products, or services that can or do interact with the environment. The interaction with the environment may be continuous in nature; periodic; or associated only with events, such as emergencies. The effect of the interaction which is termed environmental impact can be any change to the environment, whether adverse or beneficial.

The Business Units and Grids shall compile and maintain an aspect register which will have the following categories:

- Activity
- Aspect
- Medium (Water, Air, Land (including Biodiversity))
- Control Measure
- Likelihood
- Magnitude
- Compliance obligation
- Stakeholder Interest
- Business Risk/Benefit
- Significance

#### **3.1.1 Identification of environmental aspects**

The BU shall determine the environmental aspects associated with the BU activities, products and services that can be controlled and those that can be influenced, considering:

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- a) change, including planned or new developments or new and modified activities, products and services.
- b) abnormal conditions and reasonably foreseeable emergency situations.

Each identified aspects will then be linked to applicable compliance obligations.

Aspects identification can be conducted by using the following possible source of information:

- Initial review done by all BU's.
- Risk assessments
- Audits (i.e., internal, self -assessments, peer, external)
- Site Inspections
- Incidents, non-conformances and non-compliance to legislation, policy and procedures
- Historical Trends
- Baseline information

### **3.1.2 Significance ranking**

As a minimum all Business Units and Grids, will compile the aspect register and rank the aspects from highest significance to lowest significance in the format illustrated in above (3.1). The aspect register should be updated for activities that can be controlled and those that can be influenced, taking into consideration planned or new developments or new and modified aspects. Any amendments and/or changes should be maintained, and significance rating given in accordance with (Appendix A). All high, medium, and low environmental aspects are to be monitored and managed.

Note: Significant environmental aspects could result in risks and opportunities. This will be evaluated and managed in the IRM process (Integrated Risk Management as per ISO 31000).

### **3.1.3 Set objectives and plans to achieve them**

The identified aspects with the associated impacts will be managed by setting objectives and actions to achieve them.

The objective and targets shall be

- a) Based on the identified significant environmental aspects and associated compliance obligations, the views of interested and affected parties and considering risk and opportunities
- b) consistent with Eskom's SHEQ Policy (32-727).
- c) measurable
- d) monitored
- e) communicated / reported; and
- f) updated as and when appropriate

In setting targets the following may be considered: technological options, financial implications, and operational and business requirements.

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### **3.2 Environmental Management Programmes**

Establishing plan of action which ensures that:

- Environmental aspects with significant impacts are identified, minimised, rehabilitated, and mitigation measures are implemented and monitored;
- Identified aspects with beneficial environmental impacts (opportunity) will be maximised.
- Compliance obligations are fulfilled.
- Objectives are measurable to ensure that negative impacts are mitigated and existing impacts rehabilitated;
- Roles, responsibilities, resources needed and timeframes to which actions needs to be achieved are clearly defined and allocated.
- Interested parties shall be identified and considered for inclusion in the EMPr where applicable.

In an EMPr, various mitigation measures are organised into a well formulated plan, which serves as a guide for the responsible person. This should include clearly defined roles and responsibilities, objectives, targets, means and timeframes by which they are to be monitored, reviewed and closed out. Information used to compile an EMPr can be sourced from: -

- Incident investigations and past experiences (maintenance records, investigation reports etc.)
- A life cycle assessment (LCA) i.e. establish controls to ensure that environmental requirement(s) are addressed in the design and development process of the product or service, determine environmental requirement(s) for the procurement of products and services; communicate its relevant environmental requirement(s) to external providers, including contractors; consider the need to provide information about potential significant environmental impacts associated with the transportation or delivery, use, end-of-life treatment and final disposal of its products and services.

The various stages in the life cycle over which there is greatest control or influence may offer the greatest opportunity to reduce resource use and minimise pollution or waste.

- EIA (i.e. Upgrades and changes to infrastructure)
- Routine maintenance inspections and previous audit findings.
- Environmental due diligence
- Environmental assessment Environmental Management Programme Guideline for Suppliers/Contractors. EMPr requirements should be integrated into inquiries as part of tender documents and subsequent contracts including design specifications, procedures, and work instructions.

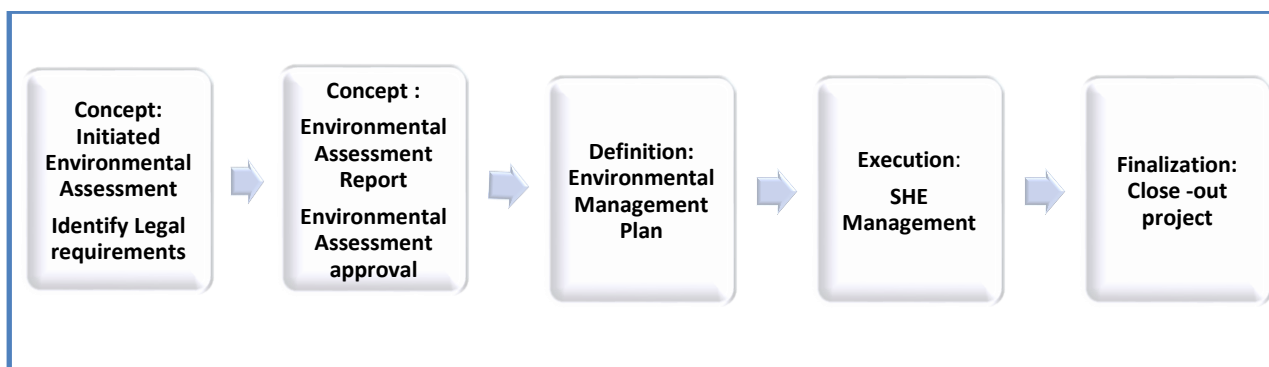
The performance monitoring of the EMPr is linked to existing business performance measures and reporting practices i.e., compliance reporting an integral part of Environmental Monitoring and Measurement, Work Instruction 240-103644804.

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### 3.2.1 General Requirements of Project EMPr(s)

Construction project EMPr(S): This EMPr is compiled for a project as part of environmental authorisation process, as per EIA regulations. Requirements of this EMPr are listed under the latest Environmental Impact Assessment Regulations 2014, as amended. Upon completion of the projects, Project Execution will hand over the EIA report, EMPr and other environmental related documents to the Asset owner (Project hand over template). Refurbishment and Maintenance projects EMPr: Internal EMPr for project that do not trigger any Listing Notices of activities must be compiled and submitted to the project manager by Environmental Practitioner.

### Project Life Cycle Management (PLCM) Environmental requirements:



For refurbishment, minor expansion and maintenance activities/projects associated with Transmission Business:

- The development and implementation of an EMPr for existing Eskom Holdings land (site / servitude) and, or for a proposed project, the EMS procedures should be followed to ensure compliance with applicable environmental legislation and other requirements;
- A detailed description of the aspects of the activity and impacts is covered by the environmental management programme.
- Identify persons who will be responsible for the implementation of the EMPr where appropriate and time frames must be agreed on.
- The mechanisms for monitoring compliance with the environmental management plan and reporting thereon

A detailed EMPr (i.e., specific and generic issues) must be available on site.

**NB:** As a minimum, the EMPr template shall include the following categories:

- Activity
- Aspect

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- Impact
- Significance
- Objective
- Target
- Planning Actions to Achieve Objectives
- Compliance Obligations
- Responsible Party
- Target Date

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**Table 1: Responsibility Matrix for Operational and Project Environmental Management Programme**

<b>EMP Activities</b>	<b>BU Manager</b>	<b>BUER</b>	<b>Departmental Manager</b>	<b>Tx Env. Manager</b>
<b>1. Compilation of EMPr</b>	A	R	C	I
<b>2. Approved EMPr</b>	A	R	C	I
<b>4. Integrate EMPr into Business Operations</b>	A	R	R	I
<b>5. Implement EMPr</b>	A	R	R	I
<b>6. Monitor</b>	A	R	R	I
<b>7. Reporting</b>	A	R	R	I
<b>8. Compliance Audit</b>	A	R	R	A
<b>9. Record Keeping</b>	A	R	R	I

#### **4. Acceptance**

This document has been seen and accepted by:

<b>Name</b>	<b>Designation</b>
Group Executive	Transmission Group
General Manager	Asset Management
General Manager	Engineering
General Manager	Energy Market and Services
General Manager	Grid Planning and Development
General Manager	International Traders
General Manager	Office of the Group Executive
General Manager	Operations and Maintenance (Grids)

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<b>Name</b>	<b>Designation</b>
General Manager	Transmission Projects Delivery
General Manager	System Operator
General Manager	Finance
Acting Senior Manager	Human Resources
General Manager	Procurement and Supply Chain Management
Transmission Group BMS Representatives	All Transmission Group BU's
Transmission Group BUERs	All Transmission Group BU's

## 5. Revisions

<b>Date</b>	<b>Rev.</b>	<b>Compiler</b>	<b>Remarks</b>
September 2023	5	PS Likhethhe	Review the document.
September 2020	4	PS Likhethhe	Review the document to ensure alignment
July 2020	3	PS Likhethhe	Update to reflected alignment to business areas joining Transmission Group
August 2017	2	P S Likhethhe	<ul style="list-style-type: none"> <li>Change in the content aligned to ISO 14001:2015.</li> <li>Document changed to work instruction</li> </ul>
August 2016	1	P S Likhethhe	<ul style="list-style-type: none"> <li>New document</li> </ul>

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## **6. Development Team**

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

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- Angel Khumalo

## **7. Acknowledgements**

The compiler would like to acknowledge the Transmission Environmental Management Team for putting this document together.

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## Appendix A – Significant Assessment Criteria

<b>Significant Assessment Criteria:</b> The environmental impacts associated with an aspect are assessed by considering both the likelihood of an impact and its magnitude. Together they define the environmental impact. Likelihood and magnitude for each aspect are characterised as high, medium and low according to the following definitions and score ratings:			
Criteria	High (3)	Medium (2)	Low (1)
<b>Likelihood:</b> Probability of an environmental impact occurring.	Routine or on-going activity or impacts. Is known to have occurred on routine basis in the past. Impacts associated with the aspects are likely to emerge soon. Impacts are unknown.	Impact that is likely to occur periodically i.e. once or twice a year.	Very infrequent; every several years. Impacts associated with aspect are several years away.
<b>Magnitude:</b> The extent of an environmental impact.	Aspect has a recognised global environmental impact. Widespread or permanent ecological damage locally. Remediation would take longer than one year. Could result in a major public health hazard. Magnitude is unknown.	Aspect could result in a major uncontained or sustained environmental release impacting regional or local environment only. Ecological damage can be remedied within one year. Health hazard to humans in the immediate vicinity, but not resulting in critical or fatal injury/illness.	Little or no ecological effect and no measurable impact on human health
<b>Regulatory Scrutiny:</b> This factor considers the importance and scrutiny of the aspect by the regulators (e.g., past compliance problems; regulated by legislation; level of enforcement); potential for enforcement action/foreseeable legislation. It also includes any voluntary commitments Eskom has made with respect to the aspect.	Very important. Regulated by legislation. High potential for regulatory action or limitations to operate (e.g. Subject to regulatory inspections; past compliance problems). Voluntary commitments or quasi-regulated aspect.	Important. Although regulated but legislation is not stiff.	Relatively unimportant. Little or no potential for regulatory action (e.g., not regulated; not a target of enforcement).
Criteria	High (3)	Medium (2)	Low (1)

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<b>Stakeholder Interest:</b> This factor considers the importance and scrutiny of the aspect by stakeholders including the general public, environmental interest groups (e.g., public perception; past problems; impact on property values); has the potential for litigation; coverage in local/national press.	Very important to public and customers. Aspect has the potential to cause damage to corporate reputation. On-going dialogue has begun; negative perception; possibility for third party lawsuits. Customers expect superior performance by Eskom in managing this aspect.	Important to public and customers. The aspect is likely to cause damage to corporate reputation.	Relatively unimportant; the public is unaware or is aware but is not an issue. No threat to corporate image. Is not an issue with customers.
<b>Business Risk/Benefit:</b> This factor assesses whether the aspect poses significant financial risks or benefits; the importance of early response; whether there are any industrial sector issues and initiatives associated with the aspect.	Aspect poses significant risk. Immediate response necessary. Industrial initiatives underway/developed. May have major impact on competitive position. May have a significant impact on value of Eskom's assets.	Aspect is likely to pose risk.	Aspect does not pose significant risk. No need for immediate response. No industry initiatives associated with aspect. Does not threaten competitive position. Does not affect values of Eskom's assets.

#### **Determining Significant Environmental Aspects**

The equation for calculating **significant environmental aspects score** is:

$$(\text{likelihood} \times \text{magnitude}) + (\text{regulatory scrutiny} + \text{stakeholder interest} + \text{business risk/benefit})$$

The mitigation of environmental aspects with **significant environmental aspects score equal or greater than 13** is to be prioritised.

Significance	Rating
No impact	0
Low	1-6
Medium	7-12
High	>=13

ISO 14001:2015 does not explicitly require business relevance to be addressed in identifying significant environmental aspects. However, in order to address and enhance the emerging linkages between environmental and business performance, it has been built into this work instruction. Three factors have been identified as important areas to consider in the work instruction. Each factor is scored as 1, 2, or 3. For each category, the extreme scenarios (1 and 3) are described; the 2 rating is left to the judgement of the assessor.

#### **Appendix B: Transmission Aspects for core activities**

Activities	Environmental Aspect	Activities	Environmental Aspect
Operation of Transmission infrastructure e.g. Lines and substations	Causing fire i.e. failure to maintain firebreaks Bird mortalities (red data species)	Operation and Maintenance of oil containing equipment e.g.	Oil spillage Oil sludge

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Activities	Environmental Aspect	Activities	Environmental Aspect
		defective equipment's (transformers, breaker, CVTs, CTs, VTs) and oil containment areas e.g. oil dams	
Hazardous waste handling and disposal i.e. PCB contaminated material, fluorescent tubes, used oil, oil rags, dismantling of asbestos containing infrastructure	PCB contaminated material Fluorescent tubes Asbestos containing material	Maintenance of the transmission servitude i.e. bush clearing, application of herbicide	Application of herbicide. Cutting of protected trees.
Management of SF <sub>6</sub> equipment and plant, old air-conditioning units which contain CFC	SF <sub>6</sub> gas release Contaminated SF <sub>6</sub> cylinders CFC	Management of hazardous chemicals i.e. transportation, handling, storage and disposal of hazardous chemicals, maintenance of battery room	Hazardous chemical spillage e.g. battery acid, herbicides, Acid spill, storage and disposal of redundant batteries
Execution of projects i.e. delivery, storage and handling of construction site materials using heavy vehicles, ablution facilities,	Archaeological and heritage sites Sewerage disposal Soil erosion	Performing office activities i.e. printing, water usage, electricity usage,	Water consumption i.e. burst or leaking water pipes, taps and toilet cistern Electricity consumption Paper usage
Maintenance or refurbishment of infrastructure and new build in or close proximity to sensitive area e.g. water courses (i.e. river, dam, wetland, dams), protected areas	Soil erosion Water diversion	Management of scrap materials	Storage and disposal of scrap materials
Fleet management activity – vehicle usage, aviation and associated aspects	Emission of greenhouse gases, particulates and hazardous air pollutants	Management of vehicles and aviation operations	Air pollution

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