



OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN FOR THE 400kV TRANSMISSION LINE FROM THE KUNENE SUBSTATION TO THE OMATANDO SUBSTATION IN ONGWEDIVA.



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TABLE OF CONTENTS

1.	INTRODUCTION.....	4
2.	OBJECTIVES OF THE OPERATIONAL EMP	4
3.	ROLES AND RESPONSIBILITIES	4
4.	RECORDING AND REPORTING.....	5
5.	ENVIRONMENTAL MANAGEMENT AND TRAINING	6
6.	DESCRIPTION OF ACTIVITIES TO BE UNDERTAKEN.....	6
7.	ANTICIPATED PONTENTIAL IMPACTS.....	7
8.	OPERATIONAL PHASE EMP	8
9.	NON-COMPLIANCE PROCEDURES DURING OPERATIONS	8
10.	SUB-CONTRACTOR MANAGEMENT.....	8
11.	ENVIRONMENTAL MONITORING AND AUDITING	8
12.	DOCUMENTATION, RECORD KEEPING AND REPORTING PROCEDURES	9
13.	OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN (EMP).....	10-14

LIST OF TERMS, ACRONYMS AND ABBREVIATIONS

DEA	Department of Environmental Affairs
EA	Environmental Assessment
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EMA	Environmental Management Act no 7 of 2007
EMP	Environmental Management Plan
MET	Ministry of Environment and Tourism
SHEW	Safety, Health, Environment and Wellness
PCO	Pest Control Officer
ECO	Environmental Control Officer
MSDS	Material Safety Data Sheet

DEFINITIONS

Construction: Means the building, erection or modification of a facility, structure or infrastructure that is necessary for undertaking of an activity including the modification, alteration, upgrading or decommissioning of such facility, structure or infrastructure.

Contractor: Means a person (other than a NamPower employee) or a company contracted/ legally appointed by NamPower to perform work for NamPower on a NamPower site/premises.

1. INTRODUCTION

The purpose of this document is, to provide an indication of the anticipated impacts of the operation of the line on the receiving environment. This EMP document will ensure sound environmental performance by all contractors and NamPower employees during the operation of the 400kV Transmission Line and Related Infrastructure.

NamPower foresees that operational activities will be undertaken along the 400 KV Transmission Line corridor or servitude of which some of these activities are listed activities as per the Environmental Management Act. NamPower thus has compiled an operation Environmental Management Plan (EMP) for the clearance to cover operation activities.

The significance of the possible impacts on the environment have been identified such that ways to counteract the impacts most likely to occur or most likely to cause significant impact on the environment can be determined. Site visits, community meetings and recent EIA studies conducted in the area were utilised to update the EMP. Relevant EIA studies include , the Environmental Impact Assessment done for the 400KV line.

2. OBJECTIVES OF THE OPERATIONAL EMP

The aim of this operational EMP is to detail the management actions required to implement the mitigation measures identified thereby ensuring that any operational phase activity is carried out in a manner that takes cognisance of sustainable development and is in line with National legislation. These actions are required to minimise negative impacts and enhance positive impacts associated with the operations.

Positive and negative impacts as well as impacts which may affect both the social and natural environment have been considered to provide a complete picture of the impacts that the project may have on the receiving environment.

3. ROLES AND RESPONSIBILITIES

It is the responsibility of NamPower to ensure that all management actions are carried out. The successful implementation of the EMP is, however dependant on clearly defined roles and responsibilities by several stakeholders, each fulfilling a different but vital role to ensure sound environmental management during each phase of the project.

The following roles and responsibilities have been identified as it pertains to this project:

Project Manager and District Supervisor

- Is responsible for the enforcement of the EMP.
- Must make sure that SHE requirements are included in the tender documents sent to the contractor.
- Must ensure that a SHEW clause is included in the contract document and communicated to the contractor before the inception of the project.
- Must ensure that the contractor remains in compliance with the requirements of this EMP, through regular communication and monitoring.

NamPower SHEW

- To ensure that all requirements with regards to this EMP are fulfilled.
- Assist the Project Manager in ensuring the contractor remains in compliance with this EMP.
- Provides SHEW inductions for the contractors and their employees.
- Organize and implement monitoring and audit functions, in consultation with the Project Manager
- Report back to the Project manager on contractor compliance to the EMP before the project close-off and final payment is made to the contractor.

Contractor

- Is responsible for the implementation of the EMP.
- Ensuring all tasks undertaken under the scope of work, are in accordance both with NamPower's SHEW policies and procedures as well as to the requirements of this EMP.
- Putting in writing a system of communication, in which all incidents and accidents are reported to the SHEW section.
- Ensuring that all employees receive a SHEW induction before the start of the project.
- Ensuring that the work being done does not create a nuisance to any being working, residing, or living on adjacent properties or within the immediate surroundings of the site.

NamPower has the right to ban any employee from the site, which have not attended a SHEW induction, until the time that they receive induction. NamPower also has the right to stop all construction activities if it is found that a gross violation of the EMP is taking place.

4. RECORDING AND REPORTING

Records relating to compliance monitoring shall be kept on site and will be made available for inspection by relevant competent authority which in this instance will be

the Ministry of Environment and Tourism. Matters shall also be discussed during site meetings and project meetings.

5. ENVIRONMENTAL MANAGEMENT AND TRAINING

Before any work is commenced on the site, the Contractor shall ensure that adequate environmental awareness training of site personnel takes place and that all employees receive an induction presentation on the importance and implications of the EMP. The Contractor shall liaise with the Project Manager prior to the commencement date to fix a date and venue for the induction and to agree on the content.

The Contractor shall provide a suitable venue and ensure that the specified employees attend the course. Contractor shall ensure that all attendees sign an attendance register.

As a minimum, training must include:

- Explanation of the importance of complying with the EMP,
- Discussion of the potential environmental impacts of construction activities,
- The benefits of improved personal performance,
- Employees' roles and responsibilities, including emergency preparedness,
- Explanation of the mitigation measures that must be implemented when carrying out their activities,
- Explanation of the specifics of this EMP and sensitive areas,
- Explanation of the management structure of individuals responsible for matters pertaining to the EMP.

The contractor shall keep records of all environmental training sessions, including names, dates and the information presented.

6. DESCRIPTION OF ACTIVITIES TO BE UNDERTAKEN

The following activities are associated with the operation and maintenance of a 400 KV transmission line. It is important to state that this operation EMP covers the entire Kunene-Omatando 400KV transmission line and related infrastructure servitude.

A. ACTIVITIES TO BE UNDERTAKEN DURING LINES MAINTANANCE AND OPERATION

The following activities are associated with the operation and maintenance of a transmission lines and reticulation lines.

- Replacement of line components and general maintenance.
- Cleaning and maintenance of line components
- Regular inspections by district personnel
- Re-tensioning of stay wires and replacement of worn or rusted components.
- Retrofitting of line components
- Retrofitting of OPGW lines and components
- Replacement of gates along access road
- Maintenance of access road
- Vegetation management and herbicide application
- Manual bush clearing

7. ANTICIPATED PONTENTIAL IMPACTS

Impacts identified in conducted EIA Studies in 2014 by Enviro Dynamics highlighted the following :

The main negative impacts of the proposed lines are related to :

- The impact on crop fields .
- Birds
- Vegetation
- Archaeology
- Safety risks that will occur during the during operation.

In addition, the following positive impacts are likely to occur namely:

- Facilitation of the provision of electricity and Local Economic Development in relation to the Oshana Region.
- Temporary employment creation opportunities for the locals when it comes to servitude vegetation management.
- The upgrading of infrastructure will result in more reliable power supply to the area.

8. OPERATIONAL PHASE EMP

The section below summarises the possible impacts which NamPower's operations are likely to have on the environment and details mitigation measures to ensure that these operational phase activities are managed sustainably. Each objective is also tied to a responsible person. The following project specific mitigation measures shall be applicable to the proposed project:

9. NON-COMPLIANCE PROCEDURES DURING OPERATIONS

NamPower Regional Manager (Northern), Area Superintendent and District Supervisor shall ensure that the requirements outlined in this EMP is implemented and enforced during operation.

10. SUB-CONTRACTOR MANAGEMENT

The contractor shall in writing inform its sub-contractors and issue them a copy of this EMP and SHE Plan. Sub-contractors shall indicate in writing their commitment to comply with these plans. The Contractor has the overall responsibility of ensuring that all its sub-contractors comply with both plans.

11. ENVIRONMENTAL MONITORING AND AUDITING

Environmental monitoring must be conducted at least once every month during construction and operation. Benefits derived from the monitoring and final audit process might include:

- identification of environmental risk.
- development or improvement of the environmental management system.
- avoidance of financial and time loss.
- avoidance of legal sanctions.
- increase in staff awareness.
- identify potential cost savings.

Commonly, the environmental monitoring or audit of a site will cover all management procedures, operational activities & systems, and environmental issues and will be carried out by the NamPower SHEW section.

12. DOCUMENTATION, RECORD KEEPING AND REPORTING PROCEDURES

It is vital that an appropriate document handling and retrieval system be developed for all EMP documentation. This will ensure that there is adequate EMP documentation control and will facilitate easy document access and evaluation. EMP documentation must include:

- Copy of the environmental authorisation
- Contractor method statements
- Completed weekly and monthly environmental checklist.
- EMP implementation activity specifications.
- Induction records.
- monitoring reports.

Responsibilities must be assigned by the NamPower responsible persons/contractor to relevant personnel for ensuring that the EMP documentation system is maintained, and that document control is ensured through access by and distribution to, identified personnel.

Document control is important for the effective functioning of an EMP. A document handling system must be established to ensure adequate control of updating and availability of all documents required for the effective functioning of the EMP. This procedure applies to the EMP as well as procedures and policies relating to the EMP, which must be controlled (i.e. identified, registered and changes recorded).

13. OPERATIONAL ENVIRONMENTAL MANAGEMENT PLAN (EMP)

ASPECT	MANAGEMENT OBJECTIVES	MANAGEMENT AND MITIGATION MEASURES/COMMITMENTS	RESPONSIBLE PERSON
Health, safety, and environmental awareness	Raise SHEW awareness	SHEW file to be submitted for approval to SHEW department if physical work is to be conducted on the line and SHEW induction is to be held prior to any commencement of work.	Contractor , District Supervisor and SHEW representative
Waste Management	To minimise the risk of the impact on the environment through safe storage ,handling ,use and disposal of waste.	<ul style="list-style-type: none"> • All old equipment during and maintenance of line shall be stored in such a way as to prevent pollution of the environment. • Containers with lid or netting must be provided for all waste until such time that they can be disposed at nearing approved waste disposal site. • No burning or burying of waste onsite. • Waste segregation is encouraged. 	Contractor , District Supervisor and SHEW representative
Water resources	Prevent water pollution	<ul style="list-style-type: none"> • Surface and ground water shall not be polluted under any circumstances. • Storm water shall be managed to ensure that it does not become polluted. • All hazardous substances at the site shall be adequately stored and accurately identified, recorded and labelled. • No herbicides should be used. • Temporary toilet facilities (preferably chemical toilets) used at the camp site shall be sited away from any water body. The contractor should ensure that the toilets are emptied of 	Contractor , District Supervisor and SHEW representative

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Health, safety, and environmental awareness	Raise SHEW awareness	SHEW file to be submitted for approval to SHEW department if physical work is to be conducted on the line and SHEW induction is to be held prior to any commencement of work.	Contractor , District Supervisor and SHEW representative
		<p>waste and cleaned on a bi-weekly or weekly basis depending on how full they are.</p> <ul style="list-style-type: none"> • Water must be used sparingly. 	
Social aspects	Management of complaints.	<ul style="list-style-type: none"> • Personnel should be properly educated about the impact of HIV / AIDS and other communicable diseases. • Any person making themselves guilty of violence, harassment or any other activity deemed inappropriate by the landowner, must immediately be removed from the site. • Intoxicating liquor or drugs of any kind may not be used or supplied on site to or by any person related to project or any member of the public. • The site Supervisor shall at every site meeting report on the status of the implementation of all provisions of the EMP. 	
Safety of the public	To ensure safe and controlled access to the site	<ul style="list-style-type: none"> • Gates are to be fitted with locks where possible . • Identify fire hazards, demarcate, and restrict public access to the site. • Warning signage to be posted on the fence in order keep away the general public . 	District Supervisor

ASPECT	MANAGEMENT OBJECTIVES	MANAGEMENT AND MITIGATION MEASURES/COMMITMENTS	RESPONSIBLE PERSON
Health, safety, and environmental awareness	Raise SHEW awareness	SHEW file to be submitted for approval to SHEW department if physical work is to be conducted on the line and SHEW induction is to be held prior to any commencement of work.	Contractor , District Supervisor and SHEW representative
		<ul style="list-style-type: none"> • The affected crop fields were compensated during construction and farmers will be able to plough under the lines once operational. • Maintain an incident and complaint register. 	
Hydrocarbon spillage	To minimise the risk of the impact on the environment through safe storage ,handling ,use and disposal of hazardous substances	<ul style="list-style-type: none"> • To avoid negative impacts on the soil from possible leakage or spillage . • Bunds, drip tray and plastic sheeting are recommended underneath any potentially hazardous drum or container. • Oil spill kits should be made available onsite. 	Contractor , District Supervisor and SHEW representative
Cement spillage	To control concrete and cement in order to prevent spillages and contamination of the soil.	<ul style="list-style-type: none"> • The mixing and use of concrete and cement must take place in designated area to avoid contamination. • Concrete mixing must not be done directly on the ground. 	Contractor , District Supervisor and SHEW representative

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Health, safety, and environmental awareness	Raise SHEW awareness	SHEW file to be submitted for approval to SHEW department if physical work is to be conducted on the line and SHEW induction is to be held prior to any commencement of work.	Contractor , District Supervisor and SHEW representative
Servitude vegetation management	To minimise the risk of the impact on the environment.	<ul style="list-style-type: none"> • Manual vegetation removal encouraged. • Invasive vegetation management programme to be in place for areas disturbed by the substation development. • Invasive vegetation management programme to be in place for areas disturbed by the substation's development. • Consider utilising locals for servitude vegetation management where possible to create employment. 	Contractor , District Supervisor and SHEW representative
Birds and animals		<ul style="list-style-type: none"> • Enforce anti-poaching measures strictly (for birds and other fauna), and this should be emphasised during induction to contractors. • A member from the NamPower SHE Section should be actively involved, as often as practically possible, at the work sites which will help to keep levels of intentional and accidental disturbance to nesting birds and to other terrestrial wildlife low. • Any contravention of the law (e.g. poaching) should be quickly and strictly dealt with so that it sends a deterrent message to others. • Any bird mortalities should be reported to the relevant NamPower staff member and to the coordinators of the Environmental Information Service (www.the-eis.com) 	Contractor , District Supervisor and SHEW representative

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		<p>so that the information is captured and available for future reference.</p> <ul style="list-style-type: none"> • The condition of the devices should be recorded over time so that any deterioration is noted. This information will be useful in refining the future design of the relevant devices, for maximum longevity. Also, it will alert NamPower staff of the need to replace devices that lose their functionality. • Records should be kept by the relevant staff on how many nests are removed from which towers, and of what kind of birds (if they can be identified). This data should be forwarded to the relevant Environmental Officer in NamPower, as well as to the coordinators of the Environmental Information Service so the information becomes accessible to the public. • This information should be collected so that it is possible in future to recommend specific actions that will deter or prevent birds from nesting on the towers. Hard data will then be available to show there are 'hot spots' of this problem and where to concentrate any mitigation effort. 	

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		<ul style="list-style-type: none"> • Records of bird mortalities and nest removals, including date and co-ordinates of instance and description of environmental conditions. • Production of annual report on “Hot Spot” analysis based on instances of bird mortalities and nest removals. • Production of Bird Flight Diverter status report every five years. • Breeding sites of raptors and other wild birds must not be disturbed. • Nests may not be removed or damaged. Young chicks and eggs may not be removed from the nests. • No birds may be shot or caught. • No domestic animals (such as cows, chickens, dogs, cats, goats, or sheep) may be kept either at the campsite on the construction site since they can introduce diseases or interbreed with the animals occurring naturally in the area. 	

ASPECT	MANAGEMENT OBJECTIVES	MANAGEMENT AND MITIGATION MEASURES/COMMITMENTS	RESPONSIBLE PERSON
Health, safety, and environmental awareness	Raise SHEW awareness	SHEW file to be submitted for approval to SHEW department if physical work is to be conducted on the line and SHEW induction is to be held prior to any commencement of work.	Contractor , District Supervisor and SHEW representative
Cultural resource	Prevent damage and destruction of fossils, artefacts, and materials of heritage significance	<ul style="list-style-type: none"> • Any chance finds must be reported to NamPower environmental section. • In an event of discovery of human remains or other artefacts the work shall cease. A professional archaeologist is to be consulted and carry out investigation. 	Contractor , District Supervisor and SHEW representative
Contractor management	Ensure compliance with EMP requirements.	<ul style="list-style-type: none"> • No firearms or weapons of any kind will be permitted to be carried onsite. • Appropriate PPE will be worn by contract personnel . • Awareness of this EMP and all relevant procedures will be continuously made at daily during daily toolbox talks. 	Contractor , District Supervisor and SHEW representative
Rehabilitation		<p>Rehabilitation of disturbed areas</p> <p>Rehabilitation should be carried out to facilitate the re-establishment of the affected areas.</p>	NamPower

