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CONSULTING ENGINEERS

NamPower

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REPORT:

EMP FOR THE PROPOSED CONSTRUCTION OF CONCRETE TRANSFORMER PLATFORMS AND THE UPGRADE OF AN EXISTING WASH AND SERVICE BAY AT BRAKWATER, NAMIBIA

PROJECT NUMBER: ECC-140-469-REP-07-C

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ECC
ENVIRONMENTAL
COMPLIANCE CONSULTANCY

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ABBREVIATIONS

Abbreviation	Description
ECC	Environmental Compliance Consultancy
EIA	environmental impact assessment
EMP	environmental management plan
km/h	kilometre per hour
Ltd.	Limited
MEFT	Ministry of Environment, Forestry and Tourism
MME	Ministry of Mines and Energy
NamPower	Namibia Power Corporation (Pty) Ltd
PPE	personnel protective equipment
Pty	proprietary
RED's	Regional Electricity Distributors
SAPP	Southern African Power Pool
SOP	standard operating procedure
ToR	terms of reference

1 INTRODUCTION

1.1 PROJECT BACKGROUND

Environmental Compliance Consultancy (ECC) has been contracted Burmeister & Partners (Pty) Ltd on behalf of NamPower (herein after referred to as 'the proponent') to conduct an environmental impact assessment (EIA) and compile this environmental management plan (EMP) for the proposed construction of concrete transformer platforms and the upgrade of an existing wash and service bay Khomas Region, Namibia.

NamPower's core business is the generation, transmission and energy trading, which takes place within the Southern African Power Pool (SAPP), the largest multilateral energy platform on the African continent. NamPower supplies bulk electricity to Regional Electricity Distributors (REDs), Mines, Farms and Local Authorities (where REDs are not operational) throughout Namibia. NamPower recently promoted the commissioning of higher-efficiency distribution transformers to be economically and environmentally beneficial. The construction of the transformer platforms will assist and speed up the process of the loading of transformers, should transformers experience breakage. The construction of transformer platforms will also prevent minimal oil spills from impacting the surrounding environment

The location of the proposed site is shown in Figure 1.

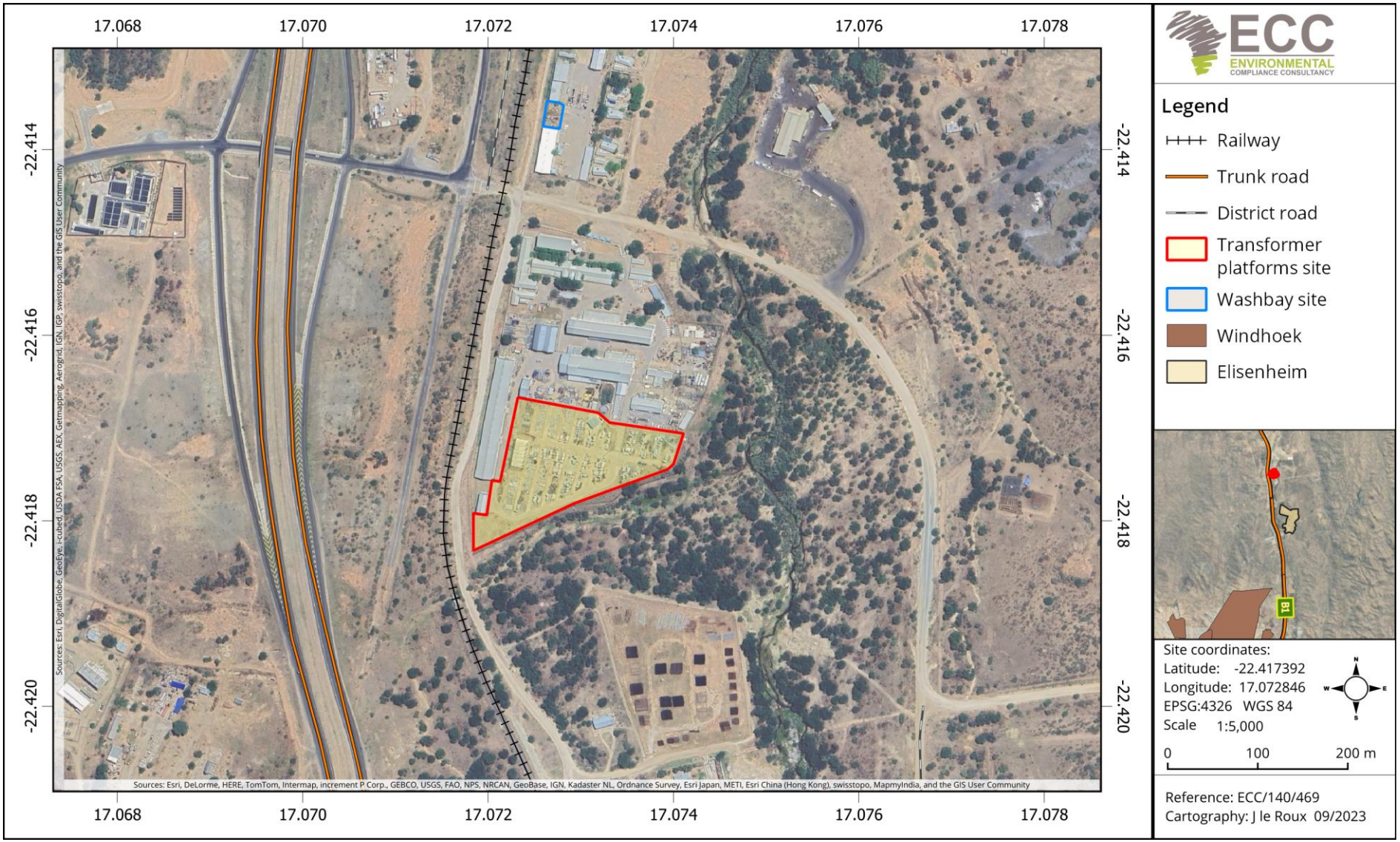

Figure 1: Locality map of the proposed project

1.2 ENVIRONMENTAL REGULATORY REQUIREMENTS

The proposed project triggers listed activities as stipulated in the Environmental Management Act, No. 7 of 2007 and its Regulations, promulgated in 2012. An environmental scoping report, environmental impact assessment (EIA) and environmental management plan (EMP) are required to be submitted as part of the application to support the decision-making process for issuing an environmental clearance certificate.

This report presents the EMP and has been undertaken in terms of the requirements of the Environmental Management Act, 2007 and its Regulations.

1.3 PURPOSE AND SCOPE OF THIS REPORT

The environmental management plan (EMP) provides a logical framework, mitigation measures and management strategies for the activities associated with the proposed project. In this way ensuring that the potential environmental impacts are curbed and minimised as far as practically possible and that statutory and other legal obligations are adhered to and fulfilled. Outlined in the EMP are the protocols, procedures and roles and responsibilities to ensure the management arrangements are effectively and appropriately implemented.

The EMP forms an appendix to the environmental scoping report and is based on the findings of the assessment. The environmental scoping report should be referred to for further information on the proposed project, assessment methodology and applicable legislation, and assessment findings.

This EMP is a live document and shall be reviewed at predetermined intervals, and or updated during the EIA process when or if the scope of work alters, or when further data or information is added. All personnel working on the project will be legally required to comply with the requirements set out in the final EMP that is approved by the competent authorities and Ministry of Environment, Forestry and Tourism (MEFT).

1.4 MANAGEMENT OF THIS EMP

The proponent, will hold the environmental clearance certificate for the proposed project and will be responsible for the implementation and management of this EMP. The implementation and management of this EMP, and thus the monitoring of compliance, will be undertaken through daily duties and activities, as well as monthly inspections.

1.5 LIMITATIONS, UNCERTAINTIES, AND ASSUMPTIONS RELATED TO THIS EMP

This EMP does not include measures for compliance with statutory occupational health and safety requirements. This will be provided in the safety management plan to be developed by the Proponent.

Where there is any conflict between the provisions of this EMP and any contractor's obligations under their respective contracts, including statutory requirements (such as licences, project approval conditions, permits, standards, guidelines, and relevant laws), the contract should be amended, and statutory requirements are to take precedence.

The information contained in this EMP is based on the project description as provided in the environmental scoping report. Where the design or operation method is different, this EMP may require updating and potential further assessment may be undertaken.

1.6 ENVIRONMENTAL ASSESSMENT PRACTITIONER

The report has been prepared by Environmental Compliance Consultancy (Pty) Ltd (ECC) (Reg. No. 2022/0593) on behalf of the Proponent. Authored by ECC employees with no material interest in the report's outcome, ECC maintains independence from the Proponent and has no financial interest in the project apart from fair remuneration for professional fees. Payment of fees is not contingent on the report's results or any government decision. ECC members or employees are not, and do not intend to be, employed by the Proponent, nor do they hold any shareholding in the project. Personal views expressed by the writer may not reflect ECC or its client's views. The environmental report's information is based on the best available data and professional judgment at the time of writing. However, please note that environmental conditions can change rapidly, and the accuracy, completeness, or currency of the information cannot be guaranteed.

All compliance and regulatory requirements regarding this report should be forwarded by email or posted to the following address:

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2 ENVIRONMENTAL MANAGEMENT FRAMEWORK

This EMP provides measures, guidelines, and procedures for managing and mitigating potential environmental impacts. The EMP also indicates monitoring and reporting guidelines and sets responsibilities for those carrying out management and mitigation measures.

2.1 OBJECTIVES AND TARGETS

Environmental objectives and targets have been developed so that construction activities can minimise potential impacts on the environment, as far as reasonably practicable.

Environmental objectives for the project are as follows:

- Zero pollution incidents.
- Minimal vegetation clearing and earthworks.
- Minimal impact on avian receptors.
- Protect avian habitat, and
- Use natural resources effectively and efficiently.

2.2 ORGANISATIONAL STRUCTURE, ROLES, AND RESPONSIBILITIES

The Proponent shall be responsible for:

- Ensuring all members of the project team, including contractors, comply with the procedures set out in this EMP
- Ensuring that all persons are provided with sufficient training, supervision, and instruction to fulfil this requirement
- Ensuring that any persons allocated specific environmental responsibilities are notified of their appointment and confirm that their responsibilities are clearly understood
- Contractors shall be responsible for ensuring and demonstrating that all personnel employed by them are compliant with this EMP, and meet the responsibilities listed above.

Table 1 lists the roles and responsibilities allocated to different management levels in the company and specific personnel.

Table 1 – Roles and responsibilities

Role	Responsibilities and duties
Proponent	– Responsible for the overall management and implementation of the EMP. – Ensure environmental policies are drafted/updated and communicated to all personnel throughout the company. – Responsible for providing the resources required to effectively run operations and comply with the EMP. – Appoint all managers needed to ensure effective running of operations; and – Ensure systems for proper induction and training of personnel and contractors are in place.
Project manager	– Responsible for ensuring compliance with this EMP including overseeing the construction work, day to day activities during operations, and routine and non-routine maintenance work during operations, as well as the decommissioning of the transformer platforms. – Ensure all personnel are aware of the commitments made in the EMP and any other relevant regulatory requirements applicable to the project – Responsible for the management, maintenance and revision of the EMP – Ensure adequate resources are made available for implementation of this EMP – Maintain the community issues and concern register, and keep records of complaints – Ensure all employees and contractors participate in a site induction process before commencing work on the project and maintain an up to date register – Provisioning of environmental awareness/management training and inductions for all employees, including impacts of the powerline on avian fatalities – Ensure that the best environmental practice is undertaken throughout the project, and – Report any non-compliance or accidents to the regulatory authority.
Site manager	– Appointed to manage the performance of the construction and operational maintenance activities, – Responsible for implementation and compliance of this EMP – Managing the preparation and implementation of method statements for certain activities, and ensuring the environmental

Role	Responsibilities and duties
	manager reviews all method statements and the relevant environmental protocols are incorporated – Reporting any non-compliance or accidents to the project manager and environmental manager; – Ensuring that all staff have attended a site induction session before the commencement of any work on-site and that they are adequately informed of the requirements of this management plan – Ensuring that all contract workers, sub-contractors and visitors to the site are conversant with the requirements of this EMP, relevant to their roles on site and adhere to this EMP at all times, and – Receiving, responding to and recording complaints.
Employees/contractor employees	– Responsible for being compliant with this EMP throughout the construction work, in addition to: – Ensuring they have undertaken a site induction and are conversant with the requirements of this EMP, – Ensuring appropriate briefings for certain activities have been provided and fully understood – Adherence to this EMP at all times, and – Reporting of any operations and conditions that deviate from the EMP or any non-compliant issues or accidents to the environment manager and site manager/contractor.
Safety officer	– A safety officer for the project will be available, as required, throughout the construction of the project. – Ensuring and maintaining zero loss injuries – Assessing risks on the construction site – Ensuring a safe working environment – Carrying out inductions to employees and or contractors for construction and operations activities.

2.3 CONTRACTORS

Any contractors hired during the construction work or maintenance activities in the operational phase shall be compliant with this EMP and shall be responsible for the following:

- Undertaking activities in accordance with this EMP as well as relevant policies, procedures, management plans, statutory requirements, and contract requirements.
- Implementing appropriate environmental and safety management measures.
- Reporting of environmental issues, including actual or potential environmental incidents and hazards, to the site manager.

- Ensuring appropriate corrective or remedial action is taken to address all environmental hazards and incidents reported by employees and subcontractors.

2.4 EMPLOYMENT

The Proponent and all contractors shall comply with the requirements of the Republic of Namibia's regulations for Labour, Health and Safety, and any amendments to these regulations. The following shall be complied with:

- In liaison with local government and community authorities, the Proponent shall ensure that local people have access to information about job opportunities and, where they have the prerequisite skills and experience, are considered first for construction/maintenance contract employment positions.
- The number of job opportunities shall be made known together with the associated skills and qualifications.
- The maximum length of time the job is likely to last for shall be indicated.
- Should foreign workers be hired, the proponent shall ensure that they have a valid work permit at all times.
- Every effort shall be made to recruit from the group of unemployed workers living in the surrounding area for positions that entail unskilled work.

2.5 REGISTER OF ENVIRONMENTAL RISKS AND ISSUES

An environmental review of the project has been completed to identify all the commitments and agreements made. A list of environmental commitments and risks has been produced, which details including measures identified for the prevention of pollution or damage to the environment during the construction and operational phase.

Table 2 provides a list of environmental risks and issues, as well as associated mitigation (as derived from the EIA) and monitoring measures, and the roles responsible for compliance. It will be subject to regular review by the project manager and updated when necessary. The project manager and site manager will use this register to undertake monthly inspections (see next section) to ensure the project is compliant with this EMP.

Table 2 – A list of environmental risks and issues, as well as associated mitigation and monitoring measures

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
Terrestrial environment and ecology	Increase in invasive species in cleared areas.	– All project equipment arriving on site from an area outside of the Project or coming from an area of known weed infestations (not present on the project site) should have an internal weed and seed inspection completed prior to equipment being used – Ensure the potential introduction and spread of alien plants is prevented, and – Ensure the correct removal of alien invasive vegetation and prevent the establishment and spread of alien invasive plants. – Eradicate weeds and alien species as soon as they appear. – Make workers aware about alien species and weeds.	– Daily – Weekly – Annually	– Project manager – Site manager – Employees
	Accidental and uncontrolled fire	– Equipment to be well maintained and serviced regularly and documented proof kept; – Restrict movements of people to areas of activities only; – Train people and raise awareness about veld fires and firefighting and documented proof kept; – No open fire outside designated areas; – No cigarette buds are discarded but contained and disposed of at an appropriate facility; – Proper fire hazard identification signage to be placed in areas that store flammable material (i.e. hydrocarbons and gas bottles);		

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
		– Control and reduce the potential risk of fire by segregating and safe storage of materials; – Avoid potential sources of ignition by prohibiting smoking in and around facilities and – Firefighting equipment and fire breaks should always be at designated areas and should be maintained regularly.		
Groundwater and surface water	Groundwater and surface water contamination/pollution from wastewater of oil spills	– Good housekeeping; – Training through toolbox talks and induction; – Accidental spills and leaks (including absorption material) to be collected and cleaned as soon as possible – Bioremediation of oil contaminated surface water following possible accidental spills should be conducted – Major catastrophic oil spills to be reported, also to the authorities.	– Daily	– Project manager – Site manager
Soil	Soil quality contamination/pollution from wastewater or oil spills	– Accidental spills and leaks (including absorption material) to be collected and cleaned as soon as possible – In the event of spills and leaks, polluted soils must be collected and disposed of at an approved site and – Limit the possibility to mix mineral waste with topsoil. – Bioremediation of oil contaminated soil following possible accidental spills should be conducted	– Daily – Weekly – Annually	– Project manager – Site manager
	Soil trampling and possible erosion	– Limit the possibility of compaction and creating of a hard subsurface; – Limit the possibility of trampling		

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
		– Topsoil should be stockpiled separately, and re-spread during rehabilitation.		
Community	Construction of the transformers may increase the probability of complaints/ social discomfort or anxiety	– Engage with the surrounding communities and/ or all stakeholders about the construction activities.	– Daily – Weekly – Annually	– Project manager – Site manager – Employees – Safety Officer
	Occupational health and safety of construction workers and nearby community	– Use the appropriate PPE, – Complying with SOP – Complying with all applicable national regulations and laws to minimise risks at the workplace – Comply with all applicable supervision of activities – Proper use and storage of material and equipment – Any accidents or incidents should immediately be reported to the project manager, and – All incidents should be recorded in an incidental register		
Wastewater management	Waste pollution from effluent wastewater and other waste generation, collection, transport and disposal	– Minimise wastewater generation, Reuse wastewater and prevent wastewater from entering the intermittent river – Wastewater discharge permit should be obtained – Workers will be made aware about the importance of wastewater management; – Good housekeeping and – Ensure prompt clean-up of spills	– Daily – Weekly – Annually	– Project manager – Site manager – Employees

Receptors	Potential impacts	Management/mitigation measures	Monitoring requirements	Responsibility
	Possible catastrophic oil spillage event may impact local avifauna and biodiversity	– Clean up any accidental chemical, fuel and oil spills that occur at the site in an appropriate manner by using a corrective action method – Equipment to be well maintained and serviced regularly and documented proof kept – Bioremediation of oil contaminated surface water and soil following possible accidental spills should be conducted – Any major spill is reported to the project manager and Ministry of Mines and Energy (MME)		
Air quality	Possible dust emissions from construction vehicles and equipment	– Apply dust suppression where possible – Restrict speed of vehicles (<30 km/h) – Specific activities that may generate dust and impact nearby residents. – Dust generating activities should be avoided during strong wind events – All vehicles and machinery / equipment to be shut down or throttled back between periods of use	– Daily	– Project manager – Site Manager – Employees

3 COMMUNICATION AND TRAINING

To ensure potential risks and impacts are minimised it is vital that personnel are appropriately informed and trained on how to properly implement the EMP. It is also important that regular communications are maintained with stakeholders (if applicable) and made aware of potential impacts and how to minimise or avoid them. This section sets out the framework for communication and training in relation to the EMP.

3.1 COMMUNICATIONS

During construction, the project manager and site manager shall communicate site-wide environmental issues to the project team through the following means (as and when required):

- Site induction
- Audits and site inspections
- Toolbox talks, including instruction on incident response procedure, and
- Briefings on key project-specific environmental issues, like feedback on complaints.

This EMP shall be distributed to the construction team including any contractors and to ensure that the environmental requirements are adequately communicated. Key activities and environmentally sensitive operations will be highlighted to workers and contractors.

During the construction phase, communications between the management team shall include discussing any complaints received and actions to resolve them, - any inspections, audits, or non-conformance with this EMP, and any objectives or target achievements.

3.2 ENVIRONMENTAL EMERGENCY AND RESPONSE

An emergency is any abnormal event, which demands immediate attention. It is any unplanned event, which results in the temporary loss of management control at site, but where functional resources can manage the response. An emergency response plan document will be put in place that manages the response in relation to emergencies including environmental emergencies. Table 3 contains a list of numbers to be contacted in case of an emergency.

Table 3 - Emergency contact details

Town	Ambulance	Police	Fire brigade
Windhoek	+264 61 211 111	+264 61 10111	+264 64 211 111

3.3 COMPLAINTS HANDLING AND RECORDING

Any complaints received verbally by any personnel on the project site shall be recorded by the receiver including:

- The name of the complainant
- The contact details of the complainant
- Date and time of the complaint
- The nature of the complaint

The information shall be given to the project manager who is overall responsible for the management of complaints. The project manager shall do the following:

- Inform the site manager of issues, concerns, or complaints.
- Maintain a complaint register that requires details of the complaint.
- Provide a written response to the complainant of the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken, the reasons why are to be recorded in the register.

The workforce shall be informed about the complaints register, its location and the person responsible, to refer residents or the public who wish to lodge a complaint. The complaints register shall be kept for the duration of the Project and will be available for government or public review upon request.

3.4 TRAINING AND AWARENESS

All personnel working on the project shall be competent to perform tasks that have the potential to cause an environmental impact. Competence is defined in terms of appropriate education, training, and experience.

3.5 SITE INDUCTION

All personnel involved in the project shall be inducted to the site with specific environmental and social awareness training, and health and safety issues. The environmental and social awareness training shall ensure that personnel are familiar with the principles of this EMP, and the environmental impacts associated with their activities, the procedures in place to control these impacts and the consequences of departure from these procedures. The project manager shall ensure a register of completed training is maintained.

The site induction should include, but is not limited to the following:

A general site-specific induction that outlines:

- What is meant by “environment” and “social” in the EMP?
- Why the environment needs to be protected and conserved?
- How can construction activities impact the environment?
- What can be done to mitigate against impacts?

The inductee's role and responsibilities concerning implementing the EMP:

- The site’s environmental rules
- Details of how to deal with, and who to contact should any environmental problems occur.
- The potential consequences of non-compliance with this EMP and relevant statutory requirements, and
- The role of responsible people working on the project.

4 REPORTING, COMPLIANCE AND ENFORCEMENT

4.1 ENVIRONMENTAL PERFORMANCE MANAGEMENT

Th current summary of a register of environmental risks and issues identifies mitigation and monitoring measures, as well as the roles responsible for execution. The project manager and site manager will use this register to undertake monthly inspections to ensure the project is compliant with this EMP.

4.2 CONSTRUCTION: ENVIRONMENTAL INSPECTION & COMPLIANCE MONITORING

4.2.1 DAILY COMPLIANCE MONITORING

A copy of this EMP will be on-site throughout the construction work and will be available upon request. It is the responsibility of the project manager and site manager to ensure this EMP is complied with through their daily roles. Daily inspections will be undertaken by the site manager (or nominated site supervisor). Any environmental problems or risks identified will be reported to the project manager and actioned as soon as is reasonably practicable.

4.2.2 MONTHLY COMPLIANCE MONITORING

Monthly inspections will be undertaken by the site manager to check that the standards and procedures set out in this EMP are being complied with and environmental control measures are in place and working correctly. Any non-conformance will be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.3 OPERATIONS: ENVIRONMENTAL INSPECTIONS AND COMPLIANCE MONITORING

Annual inspections of the associated infrastructure will be managed and undertaken by the project manager. All infrastructure will be inspected to ensure that the equipment is operating as per specification, no damage has been caused, and no leaks or spills or rust have occurred. Any non-conformance will be recorded, including the following details: a brief description of non-conformance; the reason for the non-conformance; the responsible party; the result (consequence); and the corrective action taken and any necessary follow up measures required.

4.4 REPORTING

There will be a requirement to ensure that any incident or non-compliance, including any environmental issue, failure of equipment or accident, is reported to the project manager.

4.5 NON-COMPLIANCE

Where it has been identified that works are not compliant with this EMP, the project manager will implement corrective action to the extent that the works return to being compliant as soon as possible. In instances where the requirements of the EMP are not upheld, a non-conformance and corrective action notice will be produced. The notice will be generated during the inspections and the project manager will be responsible for ensuring a corrective action plan is established and implemented to address the identified shortcoming.

5 ENVIRONMENTAL AND SOCIAL MANAGEMENT

5.1 OBJECTIVES AND TARGETS

Environmental objectives for the project are as follows:

- Less than 5 grievances of complaints per year due to construction and operations of the transformer platforms
- Provide awareness about the environmental and socio-economic importance of the project
- Increase the design and construction of transformer platforms to prevent accidental oil spills from polluting the surrounding environment

6 IMPLEMENTATION OF THE EMP

This environmental management plan:

A. Has been prepared according to a contract with the proponent

B. Has been prepared based on information provided to ECC up to September 2023

C. Is for the sole use of the proponent, for the sole purpose of an EMP

D. Must not be used (1) by any person other than the proponent or (2) for any purpose other than an EMP

E. Must not be copied without the prior written permission of ECC.