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# BOSA

TRANSMISSION PROJECT

## APPENDIX 3

NOISE & VIBRATIONS MANAGEMENT PLAN  
REVISION 1.0

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## List of Acronyms

<b>BOSA</b>	Botswana-South Africa	<b>ESIA</b>	Environmental and Social Impact Assessment
<b>BPC</b>	Botswana Power Corporation	<b>ESMP</b>	Environmental and Social Management Plan
<b>DBSA</b>	Development Bank of Southern Africa	<b>IFC</b>	International Finance Corporation
<b>DEA</b>	Department of Environmental Affairs	<b>SANS</b>	South African National Standards
<b>ECO</b>	Environmental Control Officer	<b>SAPP</b>	Southern African Power Pool
<b>EO</b>	Environmental Officer		

## Glossary of Terms

*Definition of terms provided in the National Noise Control Regulations of 1998*

<b>Ambient sound level</b>	Means the reading on an integrating impulse sound level meter taken at a measuring point in the absence of any alleged disturbing noise at the end of a total period of at least 10 mins after such meter was put into operation
<b>Noise Nuisance</b>	means any sound which disturbs or impairs or may disturb or impair the convenience or peace of any reasonable person considering the location and time of day. This applies to a disturbance which is not quantitatively measurable such as barking dogs, etc. (compared with disturbing noise which is measurable).

## INTRODUCTORY NOTE

This plan has been prepared in terms of the requirements of the Department of Environmental Affairs (DEA) in their acceptance of the Final Scoping Report prepared for the proposed Botswana-South Africa (BOSA) Transmission Interconnection Project (the “Project”) to alleviate the current electricity supply constraints and contribute towards energy security of supply in the long run by enhancing the distribution of electricity in the region.

This Plan must be read in conjunction with the ESMP and should be implemented throughout the lifecycle of the project and/or where relevant. In terms of implementation, the Developer (Eskom or BPC) will be responsible for appointing a qualified Environmental Control Officer (ECO) to visit the site as stipulated in the ESMP to ensure implementation of this plan and other relevant authorisations and permits. A copy of this Plan must be maintained on site, and all the Contractor’s employees working at the site, including sub-contractors must be trained to ensure compliance with this Plan. Changes to the Plan must be approved by the ECO, and updates and reasons for the changes incorporated into the plan.

# SECTION 1

## 1 Introduction

### 1.1 Background to the Project

The Southern African Power Pool (SAPP) has identified the Botswana-South Africa (BOSA) Transmission Interconnection Project as one of the energy pool initiatives to alleviate the current electricity supply constraints and contribute towards energy security of supply in the long run between South African and Botswana. Given the transborder nature of the project, both Eskom of South Africa and the Botswana Power Corporation (BPC) will subsequently be the beneficiaries of the project. The proposed transmission line stretches between the Mafikeng area in South Africa and Gaborone in Botswana for approximately 210 km.

The subject of this Plan is **Noise and Vibrations Management** for the project.

### 1.2 Purpose and Scope

The **purpose** of the Noise and Vibration Management Plan is to provide a framework within which noise impacts can be managed or controlled and to present the set of measures to be implemented during the construction phase of the project to minimise the acoustic nuisances to adjacent households and other sensitive receptors close of the site.

The **scope** of the Plan includes:

- Identification of noise and vibration impacts from potential sources on site;
- Provide strategies or measures to be implemented during the construction phase of the project to minimise the acoustic nuisances to adjacent households and other sensitive receptors close of the site; and
- Ensure compliance with noise and environmental legislative requirements.

### 1.3 Objectives

To define the minimum requirements that will be implemented to minimise nuisance noise emissions from the construction site and ensure the noise issues on site are addressed timeously and effectively.

### 1.4 Major sources of noise and vibrations impacts

Noise is created by vehicles, construction machinery and activities such as drilling or excavation, as well as construction worker voices. Most the proposed alignment transverses predominantly farms, which are sparsely populated areas and typical of rural environments with generally low ambient noise levels.

Given the nature of the area, the noise can result in nuisance disturbance and actions need to be taken to control noise or to ensure that noisy activities occur at a time that will ensure no disturbance to surrounding landowners.

### 1.5 Sensitive Receptors

The main noise sensitive receptors within the vicinity of the project area include:

- Several farmhouses;
- Rural residential villages along the corridor;

- Community infrastructure (i.e. schools and clinics); and
- Several nature reserves and wilderness areas.

## SECTION 2

### 2 Noise and Vibrations Management

The table below presents a summary of the potential environmental impacts related to noise and vibrations, together with mitigation and management measures to mitigate such impacts.

**Table 1: Noise and Vibration Aspects and Impacts with associated Objectives and Mitigation Measures**

ASPECT	POTENTIAL IMPACTS	MITIGATION MEASURES	PERFORMANCE INDICATOR/ OUTCOME TARGETS	PROJECT PHASE	APPLICABLE PLANS, POLICIES & PROCEDURES	RESPONSIBLE PERSON	REPORTING, MONITORING AND AUDITING REQUIREMENTS
Increased level of noise generation (and potential vibrations)	Nuisance factor to surrounding landowners, communities and fauna.  Potential negative effects to hearing of construction staff.	<ul style="list-style-type: none"> <li>Appropriate PPE to be used by staff when undertaking activities that generate high noise levels, as per the OHS Act.</li> <li>Construction may only occur during the day.</li> <li>Should construction have to continue after hours, all residents affected must be notified in advance.</li> <li>All machinery and equipment must be maintained in good working order.</li> <li>All equipment shall be turned off when not in use.</li> <li>Prior to any particularly noisy processes identified, the nearest affected landowners must be informed of the proposed timing of the specific works in their properties.</li> <li>Assess and manage all noise complaints.</li> </ul>	<ul style="list-style-type: none"> <li>No complaints from site staff and adjacent communities about noise and vibrations from site.</li> <li>No reports of damage to hearing by workers on site.</li> </ul>	<b>CONSTRUCTION &amp; DECOMMISSIONING</b>	<p><b>International:</b></p> <ul style="list-style-type: none"> <li>IFC EHS General Guidelines (2007), Section 1.7 – Noise</li> <li>IFC EHS General Guidelines (2007), Section 2.0 &amp; 4.2 – Occupational Health and Safety</li> <li>IFC EHS General Guidelines (2007), Section 4.1– Environment: Noise and Vibration</li> </ul> <p><b>South Africa</b></p> <ul style="list-style-type: none"> <li>National Noise Control Regulations of 1998</li> <li>South African National Standard (SANS) 10103:2008</li> <li>National Environmental Management Act (Act No. 107 of 1998) (NEMA)</li> <li>Occupational Health and Safety Act (Act No. 85 of 1993)</li> </ul>	<p><b>Implementation:</b></p> <p>Contractor and EO</p> <p><b>Verification:</b></p> <p>Site Manager and ECO</p>	<p><b>Reporting:</b></p> <ul style="list-style-type: none"> <li>Complaints received pertaining to noise from site and corrective actions taken must be recorded by the EO, with details of how it was addressed.</li> </ul> <p><b>Monitoring frequency:</b></p> <ul style="list-style-type: none"> <li>The use of appropriate PPE by staff must be monitored when undertaking activities that generate high noise levels, as per the OHS Act.</li> </ul> <p><b>Auditing requirements:</b></p> <ul style="list-style-type: none"> <li>Implementation of this Plan shall be audited at the commencement of works and on a quarterly basis throughout construction works.</li> <li>An independent ECO must be appointed to undertake site verification audits/ inspections on a monthly basis. Audit reports will be submitted to the client and relevant Competent Authority as and when required.</li> </ul> <p><b>Training:</b></p> <ul style="list-style-type: none"> <li>The Contractor must ensure that all personnel are trained about the requirements of this Plan and they are competent to identify and respond to noise impacts.</li> </ul> <p><i>(Refer to <b>Section 5</b> of the ESMP for the detailed information on the training programmes and requirements).</i></p>

