Eskom	Scope of work	Kusile Power Station

Title: **Kusile Power Station Supply Maintenance and calibration of Variphones Scope of Work**

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Compiled by	Functional Responsibility	Authorized by
Occupational Hygiene Technologist	**Manager Occupational Hygiene & Safety**	**Manager Risk Management**
Date:	Date:	Date:

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1. Introduction

Kusile Power Station is committed to maintaining the health and safety of its employees by ensuring the effective performance of Noise Clipper/Variphones hearing protectors. This scope of work outlines the requirements for the supply, maintenance, inspection, testing, calibration and replacement of hearing protectors to ensure compliance with Noise Exposure Regulations.

2. Supporting Clauses

2.1 Scope

This scope of work applies to all Kusile Power Station employees to be issued/ have been issued with custom made Variphones hearing protector. The scope should cover the following:

Ear Impression Taking (Fitment)

- Medical ear check by provider (ensure ear canal clear)
- Take silicone ear moulds for each employee

Manufacturing

- Vendor manufactures custom Variphones using impressions
- Labelling of each pair with employee ID / serial number

Collection / Delivery

- Deliver units and verify against register
- Arrange employee pick-up and fitting confirmation

Issuing & Fit Check

- Fit test / comfort check with user
- Demonstrate correct insertion, removal & cleaning
- Record hand-over and signature
- Provide storage pouch & cleaning instructions
- HPD should have ≥ SNR 32 noise attenuation factor.

Documentation

- Maintain:
- Variphone issue register
- Fitment certificates/serial numbers

Monitoring & After-Care

- Annual fitment review / condition assessment
- Replace if:

  -Lost or damaged

  -Fit is compromised

-Occupational changes require new attenuation

- Compliance to SANS 1451 & Noise Exposure Regulations

Maintenance activities

- Annual Inspection, cleaning, testing and fitting,
- Replacement or repairs on damaged or defective units.
- This should also apply to all previously issued HPD's.

2.1.1 Purpose

The purpose of this document is to define the scope of work for the supply, maintenance and calibration of Noise Clipper/Variphones hearing protectors. The goal is to ensure that these hearing protection devices (HPDs) are functioning optimally to protect employees from hazardous noise levels and prevent Noise-Induced Hearing Loss (NIHL).

2.1.2 Applicability

This document shall apply to Kusile Power Station Generation Division.

2.1.3 Effective Date

This document shall be effective on the date of authorisation.

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 9001 Quality Management Systems.

[2] ISO 45001:2018 Occupational health and Safety Management Systems.

[3] 240-88303218 Kusile Power Station Occupational health and safety Manual.

[4] 240-83458011 Kusile Power Station Internal Audit.

[5] Occupational Health and Safety Act, No. 85 of 1993

[6] SANS 10083: The measurement and assessment of occupational noise for hearing conservation purposes.

[7] SANS 1451 Part 2 Hearing protectors (Ear plugs)

[8] 240-44175132 Eskom Personal Protective Equipment (PPE) Standard

2.2.2 Informative

[9] SANS 50458 Hearing protectors - Recommendations for selection, use, care and maintenance - Guidance document

2.3 Definitions

Definition	Explanation
Noise Clipper/Variphones	Custom-moulded hearing protectors designed to provide optimal noise reduction by fitting the unique shape of an individual's ear, often used in high-noise environments to prevent Noise-Induced Hearing Loss (NIHL).
Hearing Protection Devices (HPDs)	Equipment designed to protect the wearer's ears from loud noise that can cause hearing damage, such as earmuffs or earplugs.
Attenuation	The reduction of noise levels provided by a hearing protector, measured in decibels (dB).
Personal Protective Equipment (PPE)	Safety gear worn to minimize exposure to hazards that can cause workplace injuries, including helmets, gloves, goggles, and hearing protection.
Acoustic Test Fixture	A device used to measure the attenuation provided by hearing protectors, ensuring they meet safety standards.
Fit Testing	A procedure to verify that a hearing protector fits correctly and provides the necessary level of protection by measuring the seal and fit on an individual's ear.
Occupational Noise	Sound levels in a work environment that can potentially harm hearing, often regulated by safety standards.
Noise-Induced Hearing Loss (NIHL)	Permanent hearing damage caused by prolonged exposure to high levels of noise.
Spare Parts	Components kept in inventory to replace worn-out or defective parts during maintenance.
Calibration	The process of adjusting and verifying the performance of measuring instruments to ensure accuracy.
Eskom	Refers to Eskom Kusile Power Station.
Non-Conformance	Failure to meet or fulfil a specific requirement.
Occupational hygiene Technologist (OHT)	A person by virtue of his training in occupational hygiene hazard measurement /techniques is certified competent by the Eskom AIA, to carry out occupational hygiene monitoring and is registered with SAIOH.
South African National Accreditation System (SANAS)	The sole national accreditation body for conformity assessments in South Africa.
Sub-contractor	A firm or person that carries a portion of a contract from the principal contractor or from another subcontractor.
Supplier	A person who controls the supply, importation or resupply of machinery, plant, or work systems.
Verification	The process of confirming the accuracy and representativeness of any measurement results by means of independent examiner or demonstration of any statement, procedure, program, figures, calculations, and references by an accredited party.
Workplace	Any physical location in which work related activities are performed under the control of the organisation.

Definition	Explanation
Work system	A system in which human participants or machines or human participants and machines perform work using information, technology, and other resources to produce products or services for internal or external customers.

2.4 Abbreviations

Abbreviation	Explanation
HPD	Hearing Protection Device
NIHL	Noise-Induced Hearing Loss
PPE	Personal Protective Equipment
dB	Decibels (unit of sound measurement)
ISO	International Organization for Standardization
SANS	South African National Standards
SOW	Scope of Work
OHS	Occupational Health & Safety

2.5 Roles and Responsibilities

2.5.1 Employer

Establish for all employees and mandatories or persons who may be affected or potentially exposed to noise risks.

2.5.2 Occupational Hygiene Practitioner

Oversee the implementation of the hearing protection maintenance program.

2.5.3 Employees

Ensure their hearing protectors are available for scheduled maintenance and report any defects. To manage the contract on behalf of the Eskom and ensure that work is carried out as per scope of work issued and/or the Service level agreement.

2.5.4 Contractor

To comply with the contract requirements and deliver a quality service to Eskom Kusile Power station. To supply Variphones, perform maintenance, repairs and calibration within the agreed turnaround times. Execute the maintenance, testing, and repair tasks as outlined in this scope of work. To comply with any requirements stipulated in the scope of work.

2.6 Process for Monitoring

Compliance to this document shall be verified via internal audits.

2.7 Related/Supporting Documents

1. SANS 10083: The measurement and assessment of occupational noise for hearing conservation purposes.
2. SANS 1451 Part 2 Hearing protectors (Ear plugs)

2.8 Supply of Variphones

a) Supply Variphones to newly appointed employees
b) Supply replacement Variphones
c) Supply Variphones upon request

2.9 Maintenance Requirements

Inspection

a) Conduct a thorough inspection of each Noise Clipper/Variphone hearing protector.
b) Check for signs of wear, damage, or deterioration (e.g., cracks, hardening of material).
c) Verify the integrity of seals and filters.

Cleaning

a) Clean each unit using approved cleaning agents to remove earwax, dirt, and other contaminants.
b) Ensure that all parts are dry before reassembly.

2.10 Testing (Annually)

Acoustic Testing

a) Conduct annual acoustic attenuation tests to confirm that the hearing protectors are providing the required noise reduction levels (minimum of 25 dB attenuation).
b) Use a calibrated acoustic test fixture to measure the effectiveness of each hearing protector.

Fit Testing

a) Perform fit testing for employees to ensure a proper seal and effective noise protection.
b) Use a validated fit-testing device to measure individual protection levels.

2.11 Repairs and Replacement

Minor Repairs

a) Replace damaged seals, filters, and other minor components as needed.
b) Ensure replacement parts are sourced from approved suppliers.

Replacement of Units

a) Hearing protectors that fail inspection or testing must be replaced immediately.

b) Maintain a record of all units replaced, including serial numbers and reasons for replacement.

2.12 Certification Requirements

2.12.1 Document Control/ Record Keeping

Maintain a log of all maintenance activities, including inspection dates, test results, repairs, and replacements.

Submit a maintenance report after each visit to the Occupational Health & Safety department.

2.13 Service to Eskom Kusile Generation Division

The contractor shall be willing to cooperate with Eskom Kusile Generation Division or their representatives by providing the Eskom or Eskom representative access to relevant information/tools used during the maintenance and servicing for the witnessing of maintenance performed for Eskom. The contractor should inform the Kusile Power station contract manager of any delays or major deviations in the performance of the maintenance and servicing.

2.14 Complaints

The contractor shall have a policy and procedure for the resolution of complaints received from Eskom or other parties. Records shall be maintained of all complaints and of the investigations and corrective actions taken by the contractor.

2.15 Control of non-conformance on work performed.

The contractor shall have a policy and procedures that shall be implemented when any aspect of its survey work, or the results of this work, do not conform to its own procedures or the agreed requirements of the customer. The policy and procedures shall ensure that:

a) The responsibilities and authorities for the management of non-conforming work are designated and actions (including halting of work and withholding of assessment reports and certificates, as necessary) are defined and taken when nonconforming work is identified.

b) an evaluation of the significance of the non-conforming work is made.

c) correction is taken immediately, together with any decision about the acceptability of the non-conforming work.

d) where necessary, the customer is notified, and work is recalled.

e) the responsibility for authorizing the resumption of work is defined.

2.16 Required Staff Competencies.

The contractor shall ensure that the work is conducted by competent staff will the relevant qualifications and training **(i.e., at least a bachelors' degree in a field, such as Audiology, Diploma of Audiometry, or a related field)** and at least 1 years' experience to perform the task.

2.17 Maintenance Methods

The contractor is required provide maintenance services to Kusile Power Station as indicated in the in the scope of work.

The contractor shall use appropriate methods and guidelines for all maintenance work within its scope.

The contactor shall have instructions for performing the maintenance activity and where the absence of such instructions could jeopardize the results of assessments, all instructions, standards, manuals, and reference data relevant to the work of the contractor shall be kept up to date and shall be made readily available to personnel.

Maintenance and calibration must be performed annually or as and when required.

2.17.1 Deviation from Methods.

Deviations from standard methods shall occur only if the deviation has been documented, technically justified, authorized, and accepted by Eskom.

2.17.2 Assuring the Quality of Maintenance Work.

The contractor shall have quality control procedures for monitoring the validity of assessments/ maintenance undertaken.

2.17.3 Equipment.

a) The contractor shall be equipped with all equipment required for the correct performance of the test (including measurements, calculation, and analysis of data).

b) Equipment and its software used for measuring, calculating, and analysing shall be capable of achieving the accuracy required and shall comply with specifications relevant to the maintenance concerned.

c) Where applicable, the contractor shall ensure that all calibration certificates for all equipment that requires calibration are made available to the Kusile Power Station contract manager and shall further form part of the assessment report submitted to Kusile Power Station.

2.18 Result Turnaround Time

a) The contractor shall honour the agreement with Eskom by adhering to the specified turnaround. The turnaround period shall be clearly stated on the quotation provided by the contractor.

b) The test should be carried out by the contractor and the repairs to be completed within 30 working days of completing the inspection or test. The contractor shall notify the Eskom contract manager of any occurrence that may possibly result in a delay, resulting in failure to comply with the turnaround time of 30 working days.

c) Turnaround time shall form part of KPI for the contractor and failure to meet the KPI will result in NCR.

2.19 Service Level Requirements

Response Time

a) The contractor must respond to maintenance requests within 7 days for urgent repairs.

b) Routine maintenance must be scheduled and completed within the specified period.

Availability

a) The contractor must ensure that sufficient spare parts are available to avoid delays in maintenance.

Quality Assurance

a) All maintenance activities must adhere to the manufacturer's specifications and comply with the relevant safety standards.

2.20 Acceptance Criteria

a) All hearing protectors must pass the acoustic attenuation tests as per ISO 4869-3 standards.

b) Hearing protectors must be free from defects and provide adequate noise protection.

c) Maintenance reports must be submitted on time and include all required details.

2.21 Contents of the Report

a) Payments will be made upon the successful completion of each maintenance cycle and submission of the corresponding report.

b) Invoices must be submitted with supporting documentation, including maintenance logs and test results.

3. Acceptance

This document has been seen and accepted by:

Name	Designation
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Abel Vuma	Maintenance Group Manager Kusile
Dumi Gama	Operating Group Manager Kusile (Acting)
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K. Lefifi	Projects Group Manager
T. Manitshana	Middle Manager Business Inter Performance

Name	Designation
I. Sithole	Compliance Manager

4. Revisions

Date	Rev.	Compiler	Remarks
November 2024	1	N.N. Sikhakhane	Development of guidance document
November 2025	2	N.N. Sikhakhane	Scope now includes supply

5. Development Team

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

- Thobile Yonga
- Ntobeko Sikhakhane

6. Acknowledgements

N/A