

 Eskom National Transmission Company South Africa TM	Scope of Work	NTCSA Central Grid
---	----------------------	-------------------------------------

Title: **Scope of Work for the Repair and Calibration of Various Machine for Lines and Servitudes**

Document Identifier:

Alternative Reference Number: **N/A**

Area of Applicability: **Eskom Central Grid**

Functional Area: **Lines and Servitudes**

Revision: **0**

Total Pages:

Next Review Date: **N/A**

Disclosure Classification: **Controlled Disclosure**

Compiled by



Z Zwane

Snr Technical Support

Date: 07/03/2025

Functional Responsibility



N Molapo

Snr Supervisor, Lines and Servitudes

Date: 07/03/2025

Authorized by



M Nyalunga

Middle Manager, Lines and Servitudes

Date: 18/05/2025

Content

	Page
1. INTRODUCTION.....	3
2. Supporting Clauses	3
2.1 Scope.....	3
2.1.1 Purpose.....	3
2.1.2 Applicability	3
2.1.3 Effective date.....	4
2.2 Normative/Informative References	4
2.2.1 Normative.....	4
2.2.2 Informative.....	4
2.3 Definitions	4
2.4 Abbreviations	4
2.5 Roles and Responsibilities	4
2.6 Process for Monitoring.....	4
2.7 Related/Supporting Documents.....	5
3. DOCUMENT CONTENT.....	5
3.1 Detailed Scope of Work.....	5
4. RECOMMENDATION.....	11
5. ACCEPTANCE	11
6. REVISIONS.....	11
7. DEVELOPMENT TEAM.....	11

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder,

Eskom Holdings SOC Ltd Reg No 2002/015527/30

1. INTRODUCTION

Various activities are carried out within the Lines and Servitudes department in order to achieve its departmental outputs. These activities are generally mechanical in nature and thus require the use of various machines.

With the frequent use of various machinery, it is found that these machines require regular maintenance and repairs in order to keep them functioning optimally and extend the lifespan of each respective machine. Together with the use of various machinery, equipment and other items used within the department need to ensure that they are calibrated accordingly to ensure that results obtained are accurate and to ensure that weight bearing equipment is adequate for use.

The department is then faced with a challenge of not having means of repairing these machines as the cost to repair is usually high and cannot be accommodated in the current procurement processes which exist with NTCSA (Nation Transmission Company South Africa). Also, the large number of different machines and testing that is required in the department makes it difficult to obtain service providers that meet the NTCSA procurement requirements.

Thus, the need to establish a contract to enable a seamless procurement process

2. Supporting Clauses

2.1 Scope

Maintenance, repair and calibration of various machines used within the Lines and Servitudes department.

2.1.1 Purpose

The purpose of this document is to enable the establishment of a 2-year contract to enable the repair of machines.

2.1.2 Applicability

This document shall apply to NTCSA Central Grid, Lines and Servitudes

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

2.1.3 Effective date

The effective date for this document will be similar to the authorisation date on the cover page of the report.

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

None

2.2.2 Informative

None

2.3 Definitions

None

2.4 Abbreviations

Abbreviation	Explanation
NTCSA	National Transmission Company South Africa

2.5 Roles and Responsibilities

- It shall be the responsibility of the compiler to ensure that the document is registered and/or signed off.
- It shall be the responsibility of Contract Manager to ensure that the recommendations stated in the report are forwarded to procurement department to request for quotations for the execution of the required maintenance and repairs.

2.6 Process for Monitoring

Not applicable.

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

2.7 Related/Supporting Documents

- None

3. DOCUMENT CONTENT

3.1 Detailed Scope of Work

- The required scope of work for the contract is for maintenance, repair and calibration of various machines used within the Lines and Servitudes department as detailed but not limited to table 1 below.

Table 1: Activities Required the Repair, Calibrate and Maintenance of Various Machines

ITEM NAME	ITEM SHORT DISCRIPTION	CALIBRATION FREQUENCY	ITEMS TO BE REPAIRED	ITEMS TO BE SERVICED (Items to be serviced include but not limited to the lists below)
Hydraulic crimping machine	Diameter 200, Height 350mm, Ram Stroke – 22mm, Force at die face: 980 kN, Oil Volume required: 314cc	N/A	All possible defective components	a) Relay Switches b) Crimping Dies c) Hydraulic Hoses d) Pressure Plates e) Electric Pumps f) Micrometres g) Relay Switches h) Hydraulic oil i) Starter switch j) Starter pull cord
Hydraulic crimper hoses	3/8" X 20 FT 10,000 PSI HYDRAULIC JACK HOSE OTC ENERPAC MALE & FEMALE COUPLER	N/A	All possible defective components	a) O-Rings and Seals. b) Protective Sleeves c) Hydraulic Fluid
Hydraulic conductor cutter	Working pressure of 700 bar max TC series, 50 mm conductor, 331 mm crimping force (kN) 112 mm	N/A	All possible defective components	a) Cutting Blades b) Hydraulic Seals c) Hydraulic Hoses

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

				<ul style="list-style-type: none"> d) Pressure Gauges e) Couplings and Fittings f) O-Rings
Liver hoist 1.5T - 6T	Liver hoist 1.5T - 6T	N/A	All possible defective components	<ul style="list-style-type: none"> a) Load Chain b) Hooks c) Brake System d) Gears and Bearings e) Lever Handle f) Safety Latches g) Chain Guide and Sprockets
Unleaded generators	16kVA, noise Level (7), no-load 72dB, rated power factor 0.8, Engine Type=twin cylinder air cooled petrol	N/A	All possible defective components	<ul style="list-style-type: none"> a) Air Filter b) Spark Plug c) Fuel Filter d) Oil Filter e) Battery f) Carburettor g) Exhaust System h) Control Panel i) Recoil pull starter <p>On/off selector switch</p>
Magnetic drilling machine	230v/50Hz, 1.8 KW (2.4 HP) power output, 75mm max cutting diameter, 260-460 RPM no-load speed, MT3 chuck	N/A	All possible defective components	<ul style="list-style-type: none"> a) Cutting Tools (Annular Cutters) b) Magnetic Base c) Motor Brushes d) Gearbox e) Coolant System f) Control Switches g) Feed Handles and Knobs

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

Hydraulic swage bolt machine	Hoffman HP78 Diesel Engen, 12 volts DC Trigger Operated pump capacity 5.4min at 3000rpm	N/A	All possible defective components	<ul style="list-style-type: none"> a) Swaging Dies b) Hydraulic Seals c) Hydraulic Hoses d) Pressure Gauges e) Couplings and Fittings f) O-Rings g) Gun nipples h) Battery i) Fuse j) Hydraulic oil k) Axel l) Solid wheels m) Collect lock n) Jaws o) Flexinol p) Electrical wiring q) Spider r) Release/ejector
Hydraulic swage bolt machine hoses	12.5kg hose and cord kit Hs14 15m length	N/A	All possible defective components	<ul style="list-style-type: none"> a) Wear and tear on the outer cover b) Fluid Incompatibility c) Tube Erosion d) Faulty hose couplings e) Protective Sleeves
Hydraulic swage bolt punching nose assembly	T104 hydraulic installation tool for pins & collars (pistol & cylinder)	N/A	All possible defective components	<ul style="list-style-type: none"> a) Punching Dies b) Hydraulic Seals c) Hydraulic Hoses d) Pressure Gauges

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

				<ul style="list-style-type: none"> e) Couplings and Fittings f) O-Rings
Drill Machine	800w Impact Drill (POWP2030)	N/A	All possible defective components	<ul style="list-style-type: none"> a) Chuck/Arbor and Chuck key b) Motor Brushes c) Power Cord d) Bearings e) Switches f) Gearbox g) Drill Bit
Industrial grinder	2200W,230mm (SGRIND-230)	N/A	All possible defective components	<ul style="list-style-type: none"> a) Grinding Wheels b) Spindles c) Bearings d) Belts and Pulleys e) Coolant System f) Control Switches g) Dust Collection System h) Carbon Brushes
Brush cutters	Petrol d22w/2.2hp7.7kg	N/A	All possible defective components	<ul style="list-style-type: none"> a) Air Filter b) Spark Plug c) Trimmer Head and Line d) Fuel Filter e) Blades f) Primer Bulb g) Throttle and Control Cables
Chainsaw	Cylinder displacement=27 - 40.9cm ³ power output= 1.1 - 1.8 kw recommended bar length, max=12-18inch	N/A	All possible defective components	<ul style="list-style-type: none"> a) Chain b) Guide Bar c) Air Filter d) Spark Plug e) Fuel Filter f) Oil Filter

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

	weight (excl. Cutting equipment)=2.7- 4.4 kg			g) Carburettor h) Recoil Starter i) Chain Tensioner j) Anti-Vibration Mounts
Earth Resistance Tester	Low frequency tower footing impedance meters with flexible current sensors	As per manufacture's specification	All possible defective components	a) Test Leads b) Auxiliary Earth Bars c) Batteries d) Display Screen e) Control Buttons f) Protective Holster
High Voltage Earth Leads Tester	Tester:microhmmeter;100-265 v;50/60 hz	As per manufacture's specification	All defective components	a) Test Leads b) Kelvin Probes c) Power Adapters d) Display Screen e) Control Buttons f) Internal Batteries
Voltage Detector	Multirange Voltage detector	As per manufacture's specification	All defective components	All defective components
Hot Stick Tester	Wet/Dry hot stick tester 230Volts	As per manufacture's specification	All defective components	a) Test Leads b) Batteries c) Display Screen d) Control Buttons e) Protective Holster
Super Ruler	Height meter	As per manufacture's specification	All defective components	a) Measurement Markings b) Protective Coating

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

				<ul style="list-style-type: none"> c) Edges d) Non-Slip Pads
Dynamometer	Dynamometer:electronic;0-6.5 t; battery	As per manufacture's specification	All defective components	<ul style="list-style-type: none"> a) Load Cells b) Sensors c) Bearings d) Cooling System e) Control Electronics f) Drive Belts and Pulleys g) Data Acquisition System
Camera	Camera dgtl:8 gb;2x/4x zoom capability	As per manufacture's specification	All defective components	<ul style="list-style-type: none"> a) Lens and Lens Mount b) Sensor c) Shutter Mechanism d) Viewfinder e) Buttons and Dials f) Battery Compartment g) Ports and Connectors h) Firmware Updates
Binoculars	Stabilizer: type: image; size: wd 152 x lg 193 x ht 81 mm	As per manufacture's specification	All defective components	<ul style="list-style-type: none"> a) Stabilization System b) Optics c) Focusing Mechanism d) Battery and Power System e) Housing and Seals f) Buttons and Controls

Conducting the required scope will be rate based on an hourly rate and the service provider will be required to submit a quotation for anticipated hours to repair or service. The quotation should include cost for the various parts that will be required to fully service or repair the machinery

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.

4. RECOMMENDATION

Establish a contract for the repair, testing and calibration of various Lines and Servitudes machines

5. ACCEPTANCE

This document has been seen and accepted by:

Name	Designation
Patrick Thwala	Snr Supervisor Lines & Servitudes
Edwin Mafolo	Snr Supervisor Lines & Servitudes
Koketso Molekwa	Snr Supervisor Lines & Servitudes
Collin Sibeko	Snr Supervisor Lines & Servitudes
Nathan Molapo	Snr Supervisor Lines & Servitudes

6. REVISIONS

Note: Start with the latest Revision History in the first row and go backwards.

Date	Rev.	Compiler	Remarks
	0	Z Zwane	Final Document

7. DEVELOPMENT TEAM

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

- Nathan Molapo
- Collin Sibeko
- Zandile Zwane

CONTROLLED DISCLOSURE

When downloaded from the document management system, this document is uncontrolled and the responsibility rests with the user to ensure it is in line with the authorized version on the system.

No part of this document may be reproduced without the expressed consent of the copyright holder, Eskom Holdings SOC Limited, Reg No 2002/015527/30.