

	SCOPE OF WORK	NTCSA Telecommunications
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 NTCSA Telecommunications test equipment

Alternative Reference Number:

Area of Applicability: **National Transmission Company South Africa SOC Ltd**

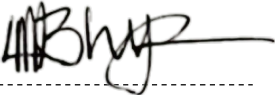



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1. Introduction

The purpose of this Scope of Work (SOW) is to define the requirements for the provision of offsite repair, maintenance, and calibration services for various test equipment used by NTCSA - Telecommunications department. The goal is to ensure minimal operational disruption and the reliable, accurate functionality of all assets

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

NTCSA - Telecommunications department makes use of a large variety of test instruments for maintenance and installation of various equipment in the telecommunications network. To achieve accurate readings from the tests, it is crucial that the test equipment be calibrated on a regular basis and be repaired when faulty.

The purpose of this document is to specify the scope of work for calibration and repair of test equipment used for maintenance of the Eskom Telecomms network. This document will be used to guide the service provider's expectations as to NTCSA's requirements.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions/ National Transmission Company South Africa SOC Ltd Reg No 2021/539129/30.

2.2 Normative/Informative References

Parties using this document shall apply the most recent edition of the documents listed below.

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] 240-123858542 Telecommunications Calibration Register for Test Equipment
- [3] 240-133822009 Telecommunications List of Test Equipment for Calibration
- [4] 240-137859000 Telecommunications Calibration Work Instruction for Test Equipment

2.3 Abbreviations

The following abbreviations are used in this scope of work document:

Abbreviation	Meaning given to the abbreviation
FS	Field Services

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ISO	International Organisation for Standardization
NTCSA	National Transmission Company of South Africa
OEM	Original Equipment Manufacturer
PO	Purchase Order
SABS	South Africa Bureau of Standards
SANAS	South African National Accreditation System
SLA	Service Level Agreement
SOW	Scope of work
QA	Quality Assurance

2.4 Definitions

The following definitions are used in this scope of work document

Definition	Explanation
Calibration Sticker	A sticker affixed to an instrument that shows its calibration status. It typically indicates the instrument's identification, who performed the last calibration and when, and the date of the next scheduled calibration.
Service Provider	External party responsible for the repair and calibration of the hardware equipment that is described in the Scope of work

2.5 Roles and Responsibilities

As defined in Section 3 this scope of work.

2.6 Process for Monitoring

Implementation of the scope will be monitored through the contract management process.

2.7 Related/Supporting Documents

N/A

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3. Scope of work

3.1 General conditions

- a) Individual purchase orders will be issued on an as and when required basis for calibration and repair services. No work should be done without a purchase order having been received by the supplier
- b) Telecommunications FS Centres will send a request for calibration and/or repair services to the supplier, and the supplier shall respond with a quotation within 5 working days.
- c) The supplier's quotations shall be based on the rates as stipulated in the calibration and repair services contract.
- d) The FS centres will thus process a PO for the calibration/repair services, and forward to the supplier
- e) Upon confirmation of the purchase order, the test equipment will be packaged and dispatched/delivered by the FS Centre to the supplier facilities.
- f) Once the work has been completed, the supplier will package the equipment and arrange for delivery of the equipment to the FS Centre (unless the FS Centre has confirmed self-collection of the test equipment from the supplier's premises).
- g) Should the supplier realise a change to the quoted scope upon inspection of the equipment, which will result in a change to the purchase order, they need to inform the FS Centre before resuming the additional scope
- h) Great care must be always taken when packaging equipment – packaging must be of such a nature, to absorb high impact. The equipment is to be safely packaged, by using bubble-wrap, polystyrene or similar, to safeguard against physical damage and possible damage in transit.
- i) The Contractor/Supplier shall ensure that ensure that their team working/servicing on behalf of Telecommunication have all training, competencies and meet NTCSA requirement
- j) The calibration laboratories must be accredited to ISO/IEC /SANAS or relevant standards, and certificate should be available
- k) Supplier shall adhere to the NTCSA Telecomms Quality requirements whilst calibrating the test equipment.

3.2 Calibration Services

- a) For calibration services, test equipment shall be pre-tested by the supplier prior to any calibration work being done on the equipment. A test report shall be made available to the responsible FC Centre.
- b) The FS Centre may at their discretion pr-test the equipment prior to shipping. In which case the test report will be included as part of the shipment to the supplier's premises. The supplier will thus be expected to test the equipment upon receipt and co-sign the test report.
- c) Each calibrated or repaired test instrument should be accompanied by a certificate and a report stating calibration information (deviation from standard and adjustments)

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- d) Equipment for which the results cannot be SANAS accredited, must be traceable to other relevant standards to ensure that the results are reliable. The Certificate must indicate whether the results are Accredited or Traceable, and what the standard is that they are traceable to.
- e) Calibrated equipment shall have a calibration sticker affixed to the instrument indicating the test instrument's calibration status and the next calibration date. The calibration certificate shall be valid for a period of three years, unless written guidance from the OEM indicates otherwise.
- f) The supplier shall keep records of calibrating certificates and equipment list for all equipment that has been calibrated for the duration of the contract.
- g) NOTE: As per ISO/IEC 17025:2005 (now 2018 ed 3 section 7.8.4.3) - Calibration Laboratories are not permitted to include any recommendation on the calibration interval unless this is agreed to by the customer or is a legal requirement
- h) The calibration Interval or period over which there is an estimated high probability that the performance of the instrument will remain within the desired specification will be guided by the NTCSA Calibration Work Instruction - document number:240-137859000.

3.3 Repair Services

- a) For equipment suspected/confirmed to be faulty, the FS Centre will create a purchase order for the strip and quote services on the equipment.
- b) The supplier will thus investigate the cause of the fault and prepare a fault report and quotation for the repair of the equipment.
- c) The quotation shall include the labour component as per contract price list and replacement part quotation (if replacement part/module is required)
- d) A fault report on repairable or irreparable items shall contain, at least, the following information
 - The serial number of the device.
 - Fault description (which module is faulty).
 - Where possible to identify the cause for the failure
- e) Repairs shall be authorised by NTCSA -Telecommunications by issuing a repair purchase order considering the repair costs vs the value of the test instrument.
- f) Repaired equipment must be accompanied by a QA/test certificate or report, and a calibration certificate bearing its serial number including the traceable/tracking info of the test equipment used for the calibration.
- g) The supplier shall provide a warranty for repaired equipment for the duration as stipulated in the contract.
- h) The items must be tracked by serial numbers. The same unit that is sent for repair shall be sent back to NTCSA whether repairable or not.
- i) All equipment shall be repaired in RSA. In the case where this is not possible the service manager will need to be consulted for a decision.

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3.4 Damage liability

- a) The Service Provider assumes full responsibility for the equipment from the point it is in their possession until its safe return and acceptance by NTCSA – Telecommunications department.
- b) In the event of damage occurring during transit, calibration, or repair activities caused by the Service Provider's negligence or actions, the Service Provider is liable for the full cost of repair or replacement with an equivalent asset, as determined by NTCSA Telecommunications
- c) All equipment must be returned in the same or improved cosmetic and functional condition as when it was received.
- d) The Service Provider must maintain appropriate General Liability and Goods in Transit insurance coverage sufficient to cover the total estimated value of all client equipment that may be on their premises at any given time.

Table 1: Radio Frequency Test Equipment

Table 1	
1	DATA
1.1	Albedo XGenius Ethernet,E1/Datacom Tester
1.2	VeexMTX150MS
1.3	VEXE STM16 tester TX300E
1.4	VeEx P/N:VePAL TX130+ 2mbit Tester
1.5	VeEX MLX100 Ethernet loop test
1.6	Anritsu site master S114C
1.7	Anritsu site master S332E
1.8	Anritsu site master S820E
1.9	Anritsu site master OSLN50A
1.10	HP Comms Test Set 8920A
1.11	HP Spectrum analyser 8592B
1.12	HP STM1 Analyser 37717C

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1.13	T1 MHZ TO 3 GHZ;LCD, DMR Comms Monitor
1.14	Sunset E20C
1.15	Repair Service – Data Section

Table 2: DC Test Equipment

Table 2	
1	DC
2.1	Multimeter UT60H
2.2	Multimeter MT1883
2.3	Fluke177 Multimeter
2.4	Fluke 376 / Clamp meter
2.5	Fluke 179 Multimeter
2.6	DMA-35 Density Meter
2.7	Battery Capacity test Set
2.8	Repair Service – DC Equipment Section

Table 3: Fibre Test Equipment

Table 3	
3	FIBRE
3.1	Shineway fibre scope
3.2	Shineway Optical talk sel
3.3	Fibrefox 6S mini
3.4	Anritsu otdr MT1000A

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3.5	Shineway OLT 55
3.6	Sumitomo Fusion Splicer 71C
3.7	OTDR EXFO FTB 400
3.8	OTDR EXFO-500
3.9	Anritsu MT9085A-053 OTDR
3.10	Fibre Optical Power Meter
3.11	Fibre Optical Light Source
3.12	Max-945-SM3 OLTS (Mux tester)
3.13	Stabilized Laser Source SLS-50P
3.14	Repair Service – Fibre Section
3.15	Transportation

4. Acceptance

This document has been seen and accepted by:

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5. Revisions

Date	Rev.	Compiler	Remarks
November 2025	1	GT RINGANI.	Establishment of calibration and repairs contract.

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6. Development Team

- Thabo Ringani

7. Acknowledgements

- Mandla Bhiya
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- Tshepo Sethunya

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