Eskom	Specification	Transmission

Title: **Generic Requirements for Telecoms Contracts**

Document Identifier: **240-135089195**

Alternative Reference Number: **ETSP 0337**

Area of Applicability: **Eskom Holdings SOC Ltd**

Functional Area: **Eskom Telecommunications**

Revision: **7**

Total Pages: **28**

Next Review Date: **September 2026**

Disclosure Classification: **CONTROLLED DISCLOSURE**

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Date: 29/09/2023	Date: 29/02/2023	Date: 02/10/2023

CONTENTS

1. Introduction 4
2. Supporting Clauses 4
2.1 Scope 4
2.1.1 Purpose 4
2.1.2 Applicability 4
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 5
2.3.1 Severity Levels 5
2.4 Abbreviations 5
2.5 Roles and Responsibilities 6
2.6 Process for Monitoring 7
2.7 Related/Supporting Documents 7
2.7.1 Superseded documents 7
3. Enquiry and After Sales Support 7
3.1 Supplier's Profile 7
3.1.1 Accreditation 7
3.1.2 Experience and Expertise 7
3.1.3 Supplier's Obligations 9
3.2 Product Design and Engineering 10
3.2.1 Project Scope of Work 10
3.2.2 Design Artefacts 10
3.2.3 Design assurance 11
3.2.4 Design Engineering 13
3.2.5 Application 13
3.2.6 Product Overview 14
3.2.7 Equipment and Product Profile 14
3.3 Supply and Delivery 15
3.4 Installation and Commissioning 15
3.5 Network Support Services 16
3.5.1 Prelude 16
3.5.2 Service Level Requirements 17
3.5.3 Major Upgrades Support Requirements 19
3.5.4 Ad hoc Support Requirements 19
3.5.5 Hardware 19
3.5.6 Software 19
3.5.7 Warranty 20
3.5.8 Spares 20
3.6 Equipment for Evaluation 20

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3.7 Test Equipment and Tools 22
3.8 Training 22
3.8.1 Training Equipment and Material 22
3.8.2 Formal Training 22
3.8.3 Informal Training 23
3.9 Handbooks 23
3.9.1 Minimum Requirements 23
3.9.2 Copies 24
3.10 Project Management 24
4. Acceptance 24
5. Revisions 25
6. Development Team 25
7. Acknowledgements 25
Annex A – Eskom's Requirements for This Contract and The Suppliers Response 27

List of Tables

Table 1: Design artefacts requirements 11
Table 2: Service response times 17

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1. Introduction

This specification forms part of a Telecommunications enquiry process. This document details the support requirements an external supplier must meet prior and during the contract.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to describe the Telecommunications' general support requirements to an external supplier. Sections covered in this document are shown below; external documents are referenced where applicable.

2.1.2 Applicability

This document shall apply throughout Eskom Holdings Limited Divisions and entities in which Eskom has controlling interest.

2.1.3 Effective date

This document is effective from the date it acquires the last authorization signature.

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 14001 Environmental Management.

[3] ISO 45001: 2018 Occupational Health and Safety Management System

[4] 32-726: SHE Requirements for the Eskom Commercial Process

2.2.2 Informative

[5] 32-1034: Eskom's Procurement and Supply Chain Management Procedure.

[6] 474-59: Internal Audit Procedure

[7] 32-123: Contractor Health and Safety Requirements

[8] OHS Act 85 of 1993 and its Regulations

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2.3 Definitions

The following definitions apply to this document:

Definition	Explanation
May & Should	Used for a condition/action that is not mandatory.
Must, Shall, Will	Used for a condition/action that is mandatory.
Site	The physical location(s) where the system or part of the system is installed.

2.3.1 Severity Levels

2.3.1.1 P1 - Emergency

a) A complete system failure which affects services/traffic (catastrophic event) OR

b) A malfunction in the system's functionality which affects services in a catastrophic manner OR

c) A complete loss or disturbance of the network management solution or no visibility to the network/systems OR

d) Loss of redundancy on business-critical systems OR

e) Cybersecurity incident

2.3.1.2 P2 - High

Situations that may result in emergencies. Major problems or disturbances that require immediate action.

2.3.1.3 P3 - Medium

Severe problems or disturbances affecting a specific area of functionality, but not the whole system. Serious disturbance with impact to end-user services.

2.3.1.4 P4 - Low

Minor problems that have a minor effect on the functionality of the network.

2.4 Abbreviations

The following abbreviations apply to this document:

Abbreviation	Lengthened
ATP	Acceptance Test Procedure
CD	Compact Disk
DRT	Design Review Team
EPU	Electric Power Utility
FAT	Factory Acceptance Test
FMEA	Failure Mode, Effects and critical Analysis
ISO	International Organization for Standards

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Abbreviation	Lengthened
ITU-R	International Telecommunications Unions- Radio communications
ITU-T	International Telecommunications Unions- Telecommunications
MTBF	Mean Time Between Failures
NMC	Network Management Centre
OEM	Original Equipment Manufacturer
OH&S	Occupational Health and Safety
RSA	Republic of South Africa
SABS	South African Bureau of Standards
SACPCMP	South African Council of the Project and Construction Management Professions
SCOT	Steering Committee Of Technologies
SOW	Scope Of Work
SHEQ	Safety Health Environment and Quality
TDRT	Telecommunications Design Review Team
HLD	High Level Design
LLD	Low Level Design
NRFU	Network Ready for Use
NIP	Network Implementation Plan

2.5 Roles and Responsibilities

The respective roles and responsibilities are discussed in this and supporting documents. A brief summary of specifics is given below:

Role	Responsibility
Technology	Design Engineering and Technical Support, Training
Network Management Centre	Network Support and Equipment Repair
National Planning	Application Design/ Specialised Engineering
Programme Management	Project Management
Operations and Field Services	Network support, equipment repair, maintenance, training, installation and commissioning
Business and Customer Services	Staff training
SHEQ	To facilitate the integration of SHEQ requirements within the technical requirements throughout the lifecycle of the contract

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2.6 Process for Monitoring

This document is intended to be issued with enquiries for procurement of telecommunications commodities and/or related services. The cross-functional teams (CFTs), consisting of End Users, Subject Matter Experts and SHEQ Advisors are to advise on changes and/or improvements required on the content of the document. The document will also be subject to Eskom's documentation process and will be reviewed for relevance as and when required.

2.7 Related/Supporting Documents

2.7.1 Superseded documents

[1] ETSP 0337: Operational Requirements for Technology Contracts Rev 4

[2] 240-130816381 Scope of Work for Support of Telecommunications Network and Related Systems

3. Enquiry and After Sales Support

This document is to be adhered to by the supplier throughout the duration of the contract. There are other obligations the supplier is subjected to after the contract. The applicable Eskom Contract requirements are outlined in Annex A, the Supplier's response to the requirements shall be indicated besides the Eskom requirements.

3.1 Supplier's Profile

3.1.1 Accreditation

3.1.1.1 Where the supplier is not the Original Equipment Manufacturer (OEM) of the offered product or parts of the solution, the supplier shall submit a letter of accreditation (or authorization) from the OEM. The letter of accreditation shall clearly indicate what the tendering supplier is authorized for, and the duration thereof.

3.1.1.2 The supplier shall provide a signed copy of their Environmental Policy.

3.1.1.3 Where the supplier is ISO 14001 certified, proof of certification shall be provided.

3.1.1.4 Where the nature of works includes decommissioning and/or disposal of materials, the supplier shall provide proof of safe disposal certificate or safe recycling of decommissioned materials.

3.1.1.5 The supplier shall provide proof of compliance to all legislative requirements applicable to them.

3.1.1.6 Where the contract is deemed to be construction work SACPCMP accreditation will be required.

3.1.2 Experience and Expertise

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3.1.2.1 It is required that proof of the proposed product(s) in the enquiry that are currently or were previously used by other EPUs be provided, with the corresponding software versions.

3.1.2.2 Supplier shall provide details on available test facilities for functionality testing. This includes, site names, location and the type of testing that can be done at each facility.

3.1.2.3 Customer Reference List and Case Studies

3.1.2.3.1 Where applicable, the supplier shall provide international or local evidence of similar work done including product(s) and/or services rendered. This shall be in the form of a customer reference list and/or case studies. The list shall include at minimum cover the following:

a) Name of Customer
b) Contact details (contact person, email, telephone, address)
c) Date contract was placed
d) Contract completion date
e) Scope of contract (products and services including activities performed)
f) Product/Equipment (product overview, hardware, firmware and software versions)

3.1.2.3.2 Eskom reserves the right to contact the customers provided on the Reference List.

3.1.2.4 Skills Matrix

3.1.2.4.1 Where applicable, the supplier shall provide a skills matrix for the resources that will be assigned to this transaction. The skills matrix list shall at minimum cover the following:

a) Number of resources per portfolio (e.g., Project Management, Engineer, Technician, SHEQ, etc.)
b) Distribution of skills per province
c) Curriculum Vitae (CVs) of the identified resources, which should include details on experience, qualifications, certifications, and where applicable, professional registrations.
d) Extent of skills and experience align to the required transaction/scope of work.

3.1.2.4.2 Eskom reserves the right to request proof of certifications and qualifications of the identified resources.

3.1.2.5 Points of Contact and Escalation Processes

3.1.2.5.1 The supplier shall provide contact information for their 24 hours service/helpdesk, which will be the point of reporting for faults, warranty, and other service-related matters. The helpdesk details shall cover at minimum the following information:

a) RSA Telephone Number
b) Email address (Online access for customer self-service)

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c) Website (Online access for customer self-service)

d) Physical location (primary)

e) Physical location (secondary), and clarify how business continuity is achieved

f) Escalation procedure with relevant contacts for each escalation level.

3.1.2.5.2 The supplier shall provide contact information for the relevant service manager or project manager for this transaction, which will be the point of reporting for P1 and P2 faults, and other service-related matters. The contact details shall cover at minimum the following information:

a) Full Names of Primary and Secondary Contact

b) Email addresses (Online access for customer self-service)

c) Office (location and telephone)

d) Cell (telephone)

e) Escalation procedure with relevant contacts for each escalation level.

3.1.3 Supplier's Obligations

3.1.3.1 The supplier shall provide a Method Statement (detailing the work activities to be provided).

3.1.3.2 The supplier shall provide their Waste Management procedure.

3.1.3.3 The supplier shall provide their Incident Management procedure (environmental).

3.1.3.4 The supplier shall provide a copy of identified Environmental Aspects and Impacts (based on the scope).

3.1.3.5 The supplier shall provide a copy of identified risks and actions to address the risks associated with activities (based on the scope).

3.1.3.6 The supplier shall provide a signed copy of Eskom's Acknowledgement of SHE Requirements form (as issued with the enquiry).

3.1.3.7 Any information that is shared by the supplier to Eskom during the enquiry will be binding during the current and subsequent projects and/or future engagements with Eskom. This includes technical and non-technical information in any form which includes but is not limited to: brochures, webpages, leaflets, books, emails etc.

3.1.3.8 The supplier shall provide a data handling procedure. The procedure shall at minimum address how the supplier manages sensitive data, and how Eskom's sensitive data and documentation will be securely handled in transit, in storage and how it will be disposed of when no longer required. Indicate compliance to POPI Act and related regulations.

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3.1.3.9 The supplier shall provide a data sanitisation procedure. The procedure shall at minimum address how the supplier sanitises faulty equipment and/or modules before disposal or redeployment.

3.1.3.10 The supplier shall hand back all of Eskom's data and documentation produced as part of the supplier's fulfilment of the scope of the contract and during the duration of the contract. Once this data is handed over, the supplier should sanitise its repositories of such data and documentation.

3.1.3.11 No information given in this document or in other related/supporting documents will reduce the supplier compliance obligations.

3.1.3.12 There shall be formal monthly meetings to discuss any issues with the product(s), solution and/or services rendered. These issues will then be documented, and solutions shall be presented where possible.

3.2 Product Design and Engineering

3.2.1 Project Scope of Work

The supplier shall respond to the Project Scope of Work as provided by if required.

3.2.2 Design Artefacts

3.2.2.1 The solution shall be accompanied by a High Level Design (HLD). An HLD comprises of document(s) detailing the overall architecture, solutions/systems configuration/layout and equipment and/or software selected. Data Communications Network (DCN) design choices. This should include information on design options, costing, constructability, procure-ability, operability, sustainability, reliability, availability, inspect-ability, test-ability, expandability, decommission-ability and all other risks considered prior to arriving at the recommended option.

3.2.2.2 A Low Level Design (LLD) comprises of document(s) detailing the selected equipment, interfaces, modules, ports, software, firmware, operating systems, and applications for the solution. Network addressing plan, licensing and configuration templates. This also includes information on Bill of Materials (BOM) and/or Quantities (BoQ). A DCN design where applicable, forms part of this documentation set. The supplier shall provide the template(s) for the LLD for evaluation purposes.

3.2.2.3 The supplier shall develop the LLD after contract award, as part of the solution development process.

3.2.2.4 A Network Implementation Plan (NIP) comprises of document(s) detailing the installation and commissioning activities, site survey forms, staging plans, Installation Test Plans (ITPs) and knowledge transfer plans (operator, administrator and technician), training plans (planner, operator, administrator and technician), and cutover plans. The supplier shall provide the template(s) for the NIP for evaluation purposes.

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3.2.2.5 The supplier shall develop the NIP after developing the LLD, as part of the solution development process.

3.2.2.6 A Network Ready for Use (NRFU) comprises of document(s) detailing the Acceptance Test Plans (ATPs), commissioning, and change management plans, operator readiness plans, maintenance, administration, disaster recovery plans and procedures. The supplier shall provide the template(s) for the NRFU for evaluation purposes.

3.2.2.7 The supplier shall develop the NRFU after developing the NIP, as part of the solution development process.

3.2.2.8 The supplier shall develop the As Built, as part of the solution development process.

3.2.2.9 As Built comprises of a set of drawings, settings, IP addresses, etc., that are marked-up to show how the item or facility was actually built versus the way it was originally designed. At the completion of a project, the as-built drawings describe what was actually built.

Table 1: Design artefacts requirements

Artefact	Eskom's requirement for this solution	Tender returnable	Post contract award	Supplier's statement of compliance (Compliant/Non-Compliant)	Supplier's comment
High Level Design (HLD)		Technical proposal	To be reviewed and approved		
Design Guide		Not applicable	To be developed, reviewed and approved		
Low Level Design (LLD) (Engineering report)		Template or samples	To be developed, reviewed and approved		
Network Implementation Plan (NIP)		Template or samples	To be developed, reviewed and approved		
Network Ready for Use (NRFU)		Template or samples	To be developed, reviewed and approved		
As Built Document		Template or samples	To be developed, reviewed and approved		

3.2.3 Design assurance

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3.2.3.1 All designs produced shall be submitted for review to the relevant Eskom design review committees/ Eskom Technical Governance, the supplier shall be able to present these, if required, and to take on full design accountability.

3.2.3.2 OEM validation of designs shall be obtained where applicable.

3.2.3.3 Penetration tests shall accompany all security and cybersecurity designs.

3.2.3.4 The supplier shall be OEM accredited to offer the solution (letter from OEM shall be provided as proof of accreditation).

3.2.3.5 The supplier shall be OEM accredited to offer the design and planning services on the offered solution (letter from OEM shall be provided as proof of accreditation).

3.2.3.6 Supplier shall provide case studies demonstrating use of offered solution. The case studies should be clear on the level of skills and expertise the supplier has with delivery of similar solutions (i.e., design, planning, installation, commissioning, SHEQ, and project management).

3.2.3.7 The supplier shall document an engineering design architecture standard that describes how the current Eskom network will interface and integrate with their proposed solution. The design shall take into consideration current and future migration plans as stipulated by Eskom.

3.2.3.8 The engineering design architecture will be presented to the relevant Eskom Technical Governance for approval.

3.2.3.9 The proposed solution should cover all aspects of the product(s) which include software and hardware designs.

3.2.3.10 The supplier shall ensure that all the stipulated requirements are understood and considered: functional, performance design, etc. It is the responsibility of the supplier to seek further description from Eskom if necessary.

3.2.3.11 The proposed solution should be reliable and scalable in terms of the Eskom network.

3.2.3.12 It is preferred that the designs are signed off by an Engineering Counsel of South Africa (ECSA) registered Engineer.

3.2.3.13 All designs shall comply with the issued specifications and the Eskom OT Cyber Security standards.

3.2.3.14 The designer shall ensure that the applicable safety standards incorporated in the regulations are complied with in the design, taking into consideration the Occupational Health and Safety (OH&S) specification submitted by Eskom

3.2.3.15 The supplier’s design may be used by Eskom in other projects.

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3.2.4 Design Engineering

3.2.4.1 The supplier shall always be ready to demonstrate and/or test any functionality called for in the specification. The demonstration and/or testing will primarily be at the supplier's premises and/or its customer(s). In specific instances, where integration to existing systems is required, the demonstrations will be at Eskom premises.

3.2.4.2 For functional demonstrations, the supplier shall submit a detailed ATP which describes how the Supplier intends to demonstrate the required functionality. Eskom reserves the right to add or remove tests on the ATP. The ATP is applicable for equipment (hardware), software, and management systems.

3.2.4.3 The final ATP shall be signed off by a technical representative of Eskom.

3.2.4.4 During the contract phase, the supplier shall produce a FAT Procedure for all the supplied equipment.

3.2.4.5 During the contract establishment phase, the supplier shall provide technical parameters required for cataloguing. The supplier shall also produce a Buyers Guide showing Eskom's SAP numbers, descriptions and pictures of equipment.

3.2.4.6 The supplier shall complete the Failure Mode, Effects and Critical Analysis (FMECA) tables for all the supplied equipment. These FMECA tables shall be used as an input in the development of the Maintenance Standard for the tendered equipment. The supplier shall develop the maintenance standard through the Eskom Steering Committee on Technologies (SCOT) process.

3.2.4.7 The development of the maintenance standard must consider the threats and limitations the proposed system has. It shall aim to maintain the performance of the equipment throughout the duration of the contract, including any foreseen modifications. This also includes the recommended planned maintenance requirements.

3.2.4.8 Inform Eskom of any known hazards emanating from the design and how they should be mitigated

3.2.5 Application

3.2.5.1 The supplier shall analyse and interpret the Eskom requirements into the network design.

3.2.5.2 The supplier shall review existing site based data and include the data into their design.

3.2.5.3 The supplier shall conduct site surveys to ensure accuracy of the information used in the design. At minimum, the site survey information shall include the following:

a) Cabinet space/Suitability
b) DC (Batteries and Chargers) and AC power requirements
c) Earth points

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d) Air conditioning/Suitability
e) Site layout (floor drawings and cabinet layout)
f) Condition of existing equipment
g) Required interfaces
h) SOW per site
i) A list of additional works required per site
j) Tower space and Suitability

3.2.5.4 The supplier shall request Eskom for access to the sites under consideration.

3.2.5.5 The supplier must inform Eskom of any additional or changes to infrastructure required on site.

3.2.5.6 Data shall only be stored in Eskom approved project files, formats and network inventory folders. Any data shall be available to the authorized staff when required.

3.2.5.7 Prior to conducting site surveys, the supplier shall comply with the Eskom SHE requirements, this should continue during and post site survey.

3.2.6 Product Overview

3.2.7 Equipment and Product Profile

3.2.7.1 The supplier shall give the first date of manufacture for all proposed equipment. A detailed issued product roadmap template must be completed and submitted, if provided.

3.2.7.2 The supplier is required to provide sets of product brochures. These shall contain at minimum the following detail:

3.2.7.2.1 **Product and/or equipment architecture** with emphasis on modularity, scalability, extensibility and interoperability.

3.2.7.2.2 **Supported interfaces** (type, speed, and legacy interface support where applicable)

3.2.7.2.3 **Equipment and/or module dimensions** (height, width, depth)

3.2.7.2.4 **Power and environmental requirements** (power supplies, power consumption, reverse polarity protection, heat dissipation and installation requirements).

3.2.7.2.5 **Warranty information** (per individual module, and per assembled unit (equipment), per product, including related software)

3.2.7.2.6 **Mean-Time Between Failures (MTBFs) and/or reliability figures**, where applicable.

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3.2.7.2.7 **Product lifecycle status report** per module, and per assembled unit (equipment) and/or per product.

3.2.7.3 The supplier shall provide the MTBF figures for all the proposed equipment.

3.2.7.4 An overview of the product(s) proposed in relation to the enquiry shall be given.

3.2.7.5 The product development and history shall be documented. Emphasis shall be placed on the continuity and integration of the product range.

3.2.7.6 A product life cycle road map shall be provided for all proposed products and/or equipment configuration. Any foreseen future developments and time frames must be outlined.

3.2.7.7 All product(s) submitted in the enquiry must be available for purchase throughout the contract duration. Where the product(s) are phased out by the OEM during the contract period, the supplier shall ensure continuity of supply of these product(s) to Eskom, for at least the duration of the contract.

3.2.7.8 The supplier must be able to provide support for the product(s) in the enquiry for a minimum period of 10 years from the date of the contract being awarded. Where the product(s) are phased out by the OEM during the contract period, the supplier shall ensure continuity of support of these product(s) to Eskom, for the minimum period of 10 years from the date of the contract being awarded.

3.2.7.9 The supplier may suggest industry standard, economic and environmentally friendly solutions if the proposed solution replaces obsolete or older equipment, more so when the older equipment was offered by the same supplier. Eskom is not obligated to implement the suppliers suggestions.

3.2.7.10 The supplier shall not include Eskom in issues/problems that arise from their own problems related to the proposed solution. The supplier may however inform Eskom of the problems and challenges faced.

3.2.7.11 The supplier shall provide Eskom with a description of any additional functionality above the technical requirements the product is capable of providing. These may be accessible through minor modifications or software updates/upgrades/etc.

3.3 Supply and Delivery

3.3.1.1 The supplier is required to provide a certificate of conformance for each item to be supplied and/or delivered (serial number should be used for traceability). Where batch testing was done the serial number of the item to be supplied and/or delivered must be traceable to the batch tested.

3.3.1.2 The supplier shall provide delivery lead times for each offered products, equipment, module, software and associated licences.

3.4 Installation and Commissioning

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3.4.1.1 These services will be required from the supplier on an as and when required basis when deemed necessary by Eskom.

3.4.1.2 All the services performed must meet the standards of [1] ISO 9001 Quality Management Systems.

3.4.1.3 The supplier must produce a breakdown cost of all the activities they need to perform for installations and commissioning including OH&S costs.

3.4.1.4 The supplier is required to provide a set of installation and commissioning manuals/procedures.

3.4.1.5 All installation must be performed using an approved ATP.

3.4.1.6 All commissioning tests must be performed using approved ATP and must get an Eskom sign off. The ATP is applicable for equipment (hardware), firmware, software, and management systems.

3.4.1.7 For instances where the Supplier does the installations for Eskom, the complete ATP shall be signed off after each installation by the Supplier and an Eskom technical representative.

3.4.1.8 The supplier must produce marked up, as built documentation from the application design documents. This must be handed over to the application design Engineers.

3.5 Network Support Services

3.5.1 Prelude

3.5.1.1 Supplier shall offer support and maintenance for all product(s), equipment and/or solutions offered.

3.5.1.2 The requirements in 3.5.2 are to be quoted by the supplier annually but may be paid by Eskom to the supplier on a monthly basis.

3.5.1.3 Fulfilling the requirements stated in 3.5.2 shall not attract extra costs or charges to Eskom.

3.5.1.4 No travelling or transport costs shall be paid by Eskom for the supplier to perform the responsibilities listed in 3.5.2.

3.5.1.5 The supplier shall log all issues originating from Eskom and report on those on a monthly basis to demonstrate compliance to the requirements in 3.5.2 . The Eskom person logging the issue shall be given a unique (system generated) reference number.

3.5.1.6 The supplier shall provide Eskom with an escalation procedure/process to be invoked when an issue is not being resolved according to the service response times stated in 3.5.2 .

3.5.1.7 Non-adherence to requirements stated in in 3.5.2 for three (3) consecutive months may result in non-payment of service charge for the third offending month.

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3.5.2 Service Level Requirements

3.5.2.1 Provide a 24 hour standby service.

3.5.2.2 Where applicable, provide a minimum of 20 hours per month on-site support.

1) The on-site support will primarily be provided to the Telecommunications Network Management Centre (NMC) Germiston offices.

2) The on-site support shall be able to handle 2nd and 3rd level support requirements.

3) The on-site support shall be Telecoms first point of contact for all technical and support issues to be escalated by Telecoms to the supplier, the response to such issues shall be as per below:

Table 2: Service response times

Classification	Severity	Reported to	Remedy	Restoration
P1	Emergency	Service Manager	Within 4 hours	8 hours
P2	High	Service Manager	8 hours	24 hours
P3	Medium	Helpdesk/Service Desk	Next business day	72 hours
P4	Low	Helpdesk/Service Desk	1 week	4 weeks

3.5.2.3 **Escalations and Resolution**

1) Issues that cannot be resolved by the NMC will be escalated to the supplier.

2) The escalation will be done through the supplier's helpdesk/service desk system or telephonically or via email.

3) The supplier shall work closely with the NMC until the escalated issue is resolved.

4) Upon resolution, the supplier is expected to make the following minimum information available to the NMC:

   a) Description of the issue (and similar issues escalated prior)

   b) Possible Causes

   c) Impact Assessment and Services/Sites Affected

   d) Steps Taken to Prevent Recurrence/Resurgence

5) For P1 and P2 incidents (or on request by Eskom management) the supplier shall produce a technical report (the format for which will be communicated by the requesting party in Eskom).

3.5.2.4 Operations, Administration and Maintenance

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1) Administration and maintenance activities of the management systems shall be performed by the supplier on a weekly basis. These activities include (but not limited to): management of licenses, database management, and management of system/user generated logs, management of system memory/storage, management and maintenance of user accounts/groups.

2) The supplier shall develop incident response and recovery plans for major systems failures (P1 incidents) which includes response to cybersecurity incidents.

3) The supplier shall conduct a network and/or system health check and test the disaster recovery (DR) procedures on a biannual basis. The network and/or system health and DR test reports shall be tabled, discussed and handed at the contract meeting.

4) When firmware and software updates/patches are released, the supplier shall conduct a network and service impact assessment, rollout plan, and rollback plan and present that to Eskom with the release. Once Eskom has made preparations/interventions/mitigations for the release to be applied, the supplier shall be able to assist with the rollout of the release.

5) Minor (or same) version upgrade will be done as part of maintenance activities, and will not be charged for separately.

3.5.2.5 **Repairs and Replacements**

1) The supplier shall offer the following services for all faulty modules/equipment/units:

   a) For critical and service affecting systems (e.g., network/element management hardware), the supplier shall offer a same day replacement service of faulty units.

   b) For non-critical systems, the supplier shall repair the item within 4 weeks.

      i) If the item is declared irreparable, then the supplier shall offer the replacement item within 6 weeks of receiving the faulty item.

   c) The repaired unit or replacement unit shall have a fault report attached to it. The fault report shall at minimum contain the following information:

      i) Date Received

      ii) Serial Number (failed unit)

      iii) Fault type/group/description

      iv) Number of times this unit (serial number) has failed

      v) Number of times similar units have failed

      vi) Repaired or Replaced?

      vii) Serial Number (replacement unit)

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viii) Date Released

3.5.2.6 **Knowledge and Skills Transfer**

1) Knowledge artefacts:

a) The supplier shall ensure that all issues escalated (and resolved) are recorded and available in an online, searchable facility that is accessible to Telecommunications NMC personnel.

i) This body of knowledge shall be handed over to Eskom at the end of the agreement/contract in a memory stick storage.

2) **On the Job Training/Mentoring/Job Shadowing**:

a) Unless the task/activity is urgent, the supplier should guide Eskom resources on how to resolve the issues themselves. For urgent tasks, the supplier shall restore the service first, and explain later.

b) The on-site resource shall also guide Eskom resources on how to do the operations, administration and maintenance activities.

3.5.3 Major Upgrades Support Requirements

3.5.3.1 Major upgrades shall be on an as and when required basis, however the pricing for that shall be contractually fixed and reviewed on an annual basis.

3.5.4 Ad hoc Support Requirements

3.5.4.1 Any other support required by Eskom and not part of SLA shall be on time and material basis.

3.5.5 Hardware

3.5.5.1 The supplier shall support the equipment installed in the network, regardless if there are other/newer versions in any of the stages of production that the supplier is working on or supplying to other customers.

3.5.5.2 As and when the supplier finds unforeseen common causes of equipment failure or limitations, these must be communicated through to Eskom.

3.5.5.3 Equipment failure mitigation techniques and recommendations should be given by the supplier when discovered. If any of the findings require a change in the currently approved Maintenance Standard, the relevant Eskom Technical Governance must also approve the new Maintenance Standard.

3.5.6 Software

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3.5.6.1 The supplier shall provide software maintenance, including but not limited to: patches, upgrades, updates, bug fixes, etc.

3.5.6.2 Any upgrades/bug fixes/etc., must be justified, at least in terms of necessity.

3.5.6.3 At least 2 previous versions currently on the network and previously offered by the supplier must be supported for the duration of the contract.

3.5.6.4 All software licenses must be provided by the supplier for the duration of the contract.

3.5.7 Warranty

3.5.7.1 The supplier shall indicate the duration (in months) of the OEM warranty for each product offering.

3.5.7.2 The OEM warranty must cover an unlimited amount of swap out services for the offered products, for the duration of the warranty.

3.5.7.3 Failures of products under warranty shall be reported to the supplier according to **Table 2**, with remedy and response times as per the criticality of the failing product.

3.5.8 Spares

3.5.8.1 The supplier shall provide a list of critical spares that Eskom should keep, together with an indicative percentage of the installed base.

3.5.8.2 The supplier shall provide a list of locations per province of its spares distribution centres (warehouses) that will be used for the distribution of the offered products.

3.5.8.3 A spares management policy must be provided by the supplier. The policy shall include at minimum the spares management philosophy and testing of spares.

3.5.8.4 The supplier shall provide any repairs and the return thereof, of any previously unused spares on Eskom's premises that have become faulty and were never used, even though the spare(s) are no longer covered by the OEM warranty.

3.5.8.5 A list of spares agents known by the supplier should be provided; the use of these agents by Eskom is however not binding.

3.5.8.6 The supplier should ensure that there are spares distribution centres available across the whole country.

3.6 Equipment for Evaluation

3.6.1.1 Only equipment that meets the international standards and comply with recommendations from bodies such as the SABS, ITU-T and ITU-R will be accepted.

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3.6.1.2 The product(s) must at minimum have all the required components to meet the technical specifications. All components and systems provided for the demonstration(s) must form part of the proposed solution for the purposes of the enquiry.

3.6.1.3 The supplier must have a baseline of factory acceptance tests that will be able to demonstrate the requirements in the specification. Other tests may be added to the baseline at the discretion of Eskom.

3.6.1.4 The supplier is to provide staff to assemble the system prior the demonstration and disassemble the system when the evaluation is complete.

3.6.1.5 All factory tests must be provided for the equipment to be evaluated.

3.6.1.6 All documentation created during or prior the enquiry will use the metric system of weights and measurements.

3.6.1.7 Each test performed should be present in the test procedure. The results should indicate the test type and must be cross-referenced to clauses in the appropriate specification.

3.6.1.8 The supplier shall demonstrate the normal and the worst operating conditions the equipment will experience.

3.6.1.9 Eskom reserves the right to provide the supplier with the minimum test cases.

3.6.1.10 Eskom reserves the right to at any time, during working hours, visit the factory to view the factory acceptance tests being performed prior equipment rollout.

3.6.1.11 During factory visits, Eskom will inspect the equipment and the tests to check if all is to Eskom's satisfaction. NB: The presence of an Eskom representative does not relieve the supplier of any responsibility in terms of meeting all the technical requirements. The presence of the representative also does not prevent the rejection of any equipment found to be faulty at a later stage.

3.6.1.12 If there is any equipment that is not meeting Eskom's standards, has repeated failures or a particular equipment exceedance of the MTBF values then the supplier is to replace all such units.

3.6.1.13 All the equipment delivered to Eskom shall always be accompanied by a test certificate confirming that the delivered equipment passed all the agreed upon FATs.

3.6.1.14 It is preferable that all equipment offered is standard off-the-shelf and has been proven in the field for at least 1 year. The solution must also have gone through Eskom's technology development process.

3.6.1.15 The supplier should inform Eskom if the equipment supplied may constitute health & safety negative effects and provide clear precautions to be undertaken to eliminate or reduce such effects

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3.7 Test Equipment and Tools

3.7.1.1 The supplier is to provide a list of all the recommended tools and test equipment for all on-site and workshop maintenances. Details of the minimum specifications/data sheets of the tools and equipment shall be provided.

3.7.1.2 The supplier is to provide a list of all special-to-type test sets and equipment. These are to be provided if there are no commercially available off-the-shelf tools that are available or if the use of such tools would be grossly uneconomic.

3.7.1.3 In the event of special-to-type tools and test sets are recommended, the manufacturers cost including delivery is to be stated.

3.8 Training

3.8.1 Training Equipment and Material

3.8.1.1 The supplier shall provide all required training equipment and material (including stationery).

3.8.2 Formal Training

3.8.2.1 The preferred mode for content delivery for all formal training is contact (in person). Other modes of content delivery such as e-training can be proposed for consideration by Eskom.

3.8.2.2 Training on the equipment, tools, test equipment and systems must be given to the selected Eskom employees by the supplier in RSA.

3.8.2.3 Training must at minimum cover: installation, commissioning, testing, maintenance and fault rectification down to components or modules.

3.8.2.4 The supplier must at least provide training prior to delivering the first equipment. Subsequent courses may also be offered, to a schedule agreed with Eskom

3.8.2.5 Eskom reserves the right to request the supplier to offer refresher courses.

3.8.2.6 The courses are to be preferably hosted at an Eskom site. Eskom Telecommunications will be responsible for organizing a venue.

3.8.2.7 All training material must be assessed and approved by Eskom Telecommunications. The course content must enable an attendee to achieve at least 80 % to pass and must cover practical and theoretical aspects.

3.8.2.8 In the case where students need to travel to test venues, Eskom Telecommunications will cover the costs.

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3.8.2.9 The supplier must give a list of all courses offered, brief course descriptions and syllabi. The experience and qualifications of the respective Instructors offering the courses must also be given.

3.8.2.10 The supplier is responsible for providing Eskom with an attendance register for every course offered.

3.8.2.11 The supplier is responsible for delivering the course certificates of competence for successful candidates to Eskom. The certificates shall be delivered to Eskom within 45 days of the course attendance. The certificates are compulsory as proof of competence for every course attended.

3.8.2.12 Successful candidates shall be certified to install, commission, operate and maintain the equipment covered in the course. Their interaction with the equipment shall not affect the current equipment warranty.

3.8.3 Informal Training

3.8.3.1 Eskom reserves the right to request for specific on-site training.

3.8.3.2 Knowledge and Skills Transfer

1) Knowledge artefacts:
   a) The supplier shall ensure that all issues escalated (and resolved) are recorded and available in an online, searchable facility that is accessible to Eskom Telecommunications NMC personnel. This body of knowledge shall be handed over to Eskom at the end of the agreement/contract in a memory stick storage.
2) On the Job Training/Mentoring/Job Shadowing:
   a) Unless the task/activity is urgent, the supplier should guide Eskom resources on how to resolve the issues themselves. For urgent tasks, the supplier shall restore the service first, and explain later.
   b) The on-site resource shall also guide Eskom resources on how to do the operations, administration and maintenance activities.

3.9 Handbooks

These Instruction Manuals are of paramount importance and must accompany each piece of equipment.

3.9.1 Minimum Requirements

3.9.1.1 Handbooks must be sufficiently comprehensible to Eskom’s satisfaction.

3.9.1.2 The handbooks must clearly show the system circuitry. The supplier must clearly display test points, supply voltage, signal voltages, typical values at terminals, etc.

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3.9.1.3 The installation guidelines that are relevant within Eskom must be given. The commissioning procedure that meets the standards set in Eskom must be given, at minimum clearly stating: the test types, type of equipment/tools required, expected results with acceptable limits, factory test results, etc.

3.9.1.4 The supplier is responsible for any costs incurred due to updating or changing descriptions, drawings, equipment, etc.

3.9.1.5 If there are any errors discovered in the manuals, the supplier shall rectify these and send them back to Eskom at the supplier's expense.

3.9.1.6 If there are other drawings not included in the standard manuals, the supplier shall supply Eskom with a soft copy of these in a Microsoft Visio format. If the supplier insists on using another format then the supplier must supply Eskom with the relevant software.

3.9.2 Copies

3.9.2.1 The supplier must provide a minimum of 3 sets of hardcopy manuals, free of charge, once a contract is established.

3.9.2.2 The supplier must provide a soft copy on a CD or memory stick, free of charge, once a contract is established.

3.9.2.3 Eskom reserves the right to order additional manual copies should the need arise.

3.10 Project Management

3.10.1.1 The supplier shall provide a detailed breakdown of schedule with production stages, from placing of order to delivery of equipment/product(s) and services for the applicable scope of works.

3.10.1.2 The supplier shall provide an installation project schedule per site.

3.10.1.3 The supplier shall provide details on the number of members for per team.

3.10.1.4 The supplier shall provide details on shipping and storage of equipment.

3.10.1.5 The supplier shall provide details on equipment warranty before installation.

3.10.1.6 The supplier shall propose and develop a project management plan for the implementation of the solution. This shall include the identified implementation risks and mitigations thereof.

4. Acceptance

This document has been seen and accepted by:

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5. Revisions

Date	Rev.	Compiler	Remarks
August 2023	7	E. Mohlatlola	Document due for revision update: Changing ET to Telecoms
September 2020	6	N. Khumalo	Document due for revision Update

6. Development Team

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

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7. Acknowledgements

The following people were involved in this and previous versions of this document:

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Annex A– Eskom's Requirements for This Contract and The Suppliers Response

Requirement	Schedule A: Eskom's requirement(s) for this contract. Marked with an 'X', if the Supplier is required to comply.	Schedule B: Supplier's response. Mark with an 'X', if the Supplier will comply.
3.1) Supplier's Profile		
3.1.1) Accreditation		
3.1.2) Experience and Expertise		
3.2) Product Design and Engineering		
3.2.1) Project Scope of Work		
3.2.2) Design Artefacts		
3.2.3) Design Assurance		
3.2.4) Design Engineering		
3.2.5) Application		
3.2.6) Product Overview		
3.2.7) Equipment and Product Profile		
3.3) Supply and Delivery		
3.4) Installation and Commissioning		
3.5) Network Support Services		
3.5.1) Prelude		
3.5.2) Service Level Requirements		
3.5.3) Major Upgrades Support Requirements		
3.5.4)Ad hoc Support Requirements		
3.5.5) Hardware		
3.5.6) Software		
3.5.7) Warranty		
3.5.8) Spares		
3.6) Equipment for Evaluation		
3.7) Test Equipment & Tools		

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Requirement	Schedule A: Eskom's requirement(s) for this contract. Marked with an 'X', if the Supplier is required to comply.	Schedule B: Supplier's response. Mark with an 'X', if the Supplier will comply.
3.8) Training		
3.8.1) Training Equipment and Materials		
3.8.2) Formal Training		
3.8.3) Informal Training		
3.9) Handbooks		
3.9.1) Minimum Requirements		
3.9.2) Copies		
3.10) Project Management		

NB: Clauses which will require a comprehensive response from the tenderer will be stated in the evaluation criteria

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