

	<b>Scope of Work</b>	<b>Eskom Telecommunications</b>
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Remote Terminal Units (RTU) and  
Front End Processors (FEPs)**

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## **1. Introduction**

A contract is required for the repair and support of Motorola ACE3600 Remote Terminal Units (RTU) and Front end processors (FEPs) that are deployed in the Eskom Telecommunications Network. The Environmental Alarm System (EAS) is responsible for gathering status information from remote sites. This information provides ET with the ability to proactively respond to faults or alarms, to provide protection against overheating of telecommunication equipment, security and general visibility to a site. The alarms also help in analyzing faults that occur in the ET network and the timeous response to network faults which as a result makes it possible to meet SLAs.

The support on this contract excludes maintenance and upgrades of the management system.

## **2. Supporting Clauses**

### **2.1 Scope**

#### **2.1.1 Purpose**

The purpose of this document is to specify the scope of work for repair and support of EAS RTUs and FEPs that are responsible for monitoring of the Eskom Telecoms network. This document will be used to guide the service provider's expectations as to the scope requirements for the support and repairs.

#### **2.1.2 Applicability**

This document shall apply throughout Eskom Holdings Limited, its divisions, subsidiaries and entities wherein Eskom has a controlling interest.

#### **2.1.3 Effective date**

This document is effective from the date of the last authorizing signature.

### **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

#### **2.2.2 Informative**

None

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## **2.3 Definitions**

### **2.3.1 Automated**

An email response within 1 business day with a reference number acknowledging the Eskom logged call

### **2.3.2 Call-back**

Response from the service provider acknowledging a logged request

### **2.3.3 Remedy**

A proposed solution or temporal relief for a logged request

### **2.3.4 Restoration**

Permanent restoration of service to normal state

### **2.3.5 Supplier**

External party responsible for the support and maintenance of the Eskom Telecommunications' Adroit system as described in this document and also in the Appendices

### **2.3.6 System**

The software, hardware, firmware, operating system, databases, and licenses jointly constituting the Eskom Telecommunications' Adroit system

### **2.3.7 2nd line support**

Technical support for issues (configuration, faults, etc.) that cannot be resolved by Eskom Telecommunications' Network Management Centre

### **2.3.8 3rd line support**

Technical support for issues (configuration, faults, design, engineering, etc.) that cannot be resolved by Eskom's technical and engineering personnel

### **2.3.9 Motorola ACE3600**

Motorola equipment responsible for gathering environmental alarms

### **2.3.10 Site**

The physical location(s) where the system or part of the system is installed. The FEP Clusters are installed in Germiston and East London, while the RTUs are installed nationwide.

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### **2.3.11 P1 - Emergency**

Service affecting incidents that impact business critical processes and/or systems will be recorded as an emergency, i.e. the Eskom's business suffers significantly in the case of a fault/incident. The following situations are classified as severity level emergency:

- a. A complete system failure which affects services/operations (catastrophic event)
- b. A malfunction in the system's functionality which affects services/operations in a catastrophic manner
- c. A complete loss or disturbance of the network management system or no visibility to the network/ systems
- d. Loss of redundancy on business critical systems

### **2.3.12 P2 - High**

Severity level classification is for those incidents, situations, disturbances and/or faults that may result in an Emergency.

### **2.3.13 P3 Medium**

Severity level classification is for those incidents, situations, disturbances and/or faults that affect a specific area of functionality, but not the whole system.

### **2.3.14 P4 Low**

Severity level classification is for general consultation and minor problems that have a minor effect on the functionality of the system.

## **2.4 Abbreviations**

<b>Abbreviation</b>	<b>Explanation</b>
ET	Eskom Telecommunications
EAS	Environmental Alarm System
RTU	Remote Terminal Unit
SLA	Service Level Agreements
CSR	Customer Service Request
FEP	Front End Processor

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## **2.5 Roles and Responsibilities**

As defined in the document content.

## **2.6 Implementation Date**

The implementation date is the date of the authorising signature.

## **2.7 Process for monitoring**

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

## **2.8 Related / Supporting Documents**

N/A

## **3. Document Content**

### **3.1 Scope of work**

#### **3.1.1 General Support Requirements**

- 3.1.1.1 Provide a Next Business Day standby service, with the option to escalate to same business day in the unlikely event of a P1- Emergency. This will require the contact details of a Help Desk and/or service manager to be provided.
- 3.1.1.2 Provide a minimum of 4 hours of support per month which shall include support for the front end processors (FEPs) and remote terminal units (RTUs), including software and associated hardware. On-site support will be on as and when basis if the need arises. The bulk of this will be remote support.
- 1) The on-site support will primarily be provided to the ET NMC Germiston offices, with a minimum of one visit annually to the East London Office.
  - 2) The on-site support shall be able to handle 2<sup>nd</sup> and 3<sup>rd</sup> level support requirements.
  - 3) The help desk/service manager shall be ET's first point of contact for all technical and support issues to be escalated by ET to the supplier, the response to such issues shall be as per Table 1 below.

**Table 1: SLA Response Times**

<b>Severity</b>	<b>Call-Back</b>	<b>Remedy</b>	<b>Restoration</b>	<b>Comment</b>
P1 - Emergency	10-30 min	Within 2 hours	2 hours	Most of the issues are anticipated to be logged with severity of P3.
P2 - High	1 – 4 hours	4 hours	24 hours	
P3 - Medium	Automated	Next day	72 hours	

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Severity	Call-Back	Remedy	Restoration	Comment
P4 - Low	Automated	1 week	4 weeks	

- 3.1.1.3 Skills transfer to Eskom personnel and enable Eskom personnel to be able to fully support the existing network in a period of no more than contract period. The supplier shall provide a skills level plan and provide monthly progress at the review meetings. Part of the monthly support hours should be dedicated to skills transfer (over the shoulder training).
- 3.1.1.4 Provide firmware and software maintenance (including bug fixes, patches, upgrades) for all FEPs and RTUs.
- 3.1.1.5 Provide support for two (2) previous versions of all related software and firmware.
- 3.1.1.6 Be able to troubleshoot advanced hardware issues
- 3.1.1.7 Adhere to Eskom's change management processes, and in the case of service affecting network configurations, prepare documentation required for this process.
- 3.1.1.8 Provide support during the additions and/or removal of hardware and services to network.
- 3.1.1.9 Provide on-site system audits and health checks on the FEPs on an annual basis.
- 3.1.1.10 Provide technical assistance and support service for 2nd and 3rd line support locally. Support shall be available at a national and regional level.
- 3.1.1.11 Provide ad hoc services, on a time and materials basis as agreed with Eskom Telecommunications

### **3.1.2 Equipment Repair Requirements**

- 3.1.2.1 The service provider is expected to price the repair of each of the modules in 3.2, the price should include repairing the item and delivery to Eskom (Germiston office).
- 3.1.2.2 All repaired units shall have a warranty period of at least 12 months. The warranty period shall start from the day the unit is dispatched by ET stores for redeployment in the Eskom network. The ET Stores will keep track of the dispatch dates and that will be made available upon request.
- 3.1.2.3 The items must be tracked by serial numbers. The same unit that is sent for repair shall be sent back to Eskom whether repairable or not.
- 3.1.2.4 All major part replacements shall be authorised by Eskom.
- 3.1.2.5 A fault report on repaired or irreparable items shall contain, at least, the following information,
  - 3.1.2.5.1 The serial number of the device,

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3.1.2.5.2 Fault description (which module is faulty),

3.1.2.5.3 Identify the cause for the failure.

3.1.2.6 All equipment shall be repaired in RSA. In the case where this is not possible Eskom shall authorise the exporting of the item.

3.1.2.7 The service provider shall provide direct, traceable, access to a fault-logging system.

3.1.2.8 The preferred response and lead times by the service provider are as follows,

Repair Response Time	Response Time	Lead Time
	1 week	2 Weeks

3.1.2.9 State your guaranteed turnaround time.

3.1.2.10 The support and repairs shall be on an as and when required basis for a period of 5 years.

## **3.2 Equipment List**

***The following equipment shall be quoted on the repair and replacement of each item.***

<b>Material</b>	<b>Description</b>
0249068	BACKPLATE;BP61IO,3 SLOT I/O MODULE
0249069	BACKPLATE;BP62IO,3 SLOT 273 I/O
0249070	BACKPLATE;BP113IO,5 SLOT 3 I/O
0249071	CABLE;AV358,40 WIRE W/TB 3M HOLD
0249072	MODULE;AV481COM,1 32DI COMPLETE
0249073	MODULE;AV245COM,1 MIXED I/O COMP
0249074	MODULE;AF7509,3640 CPU NO RADIO
0249075	MODULE;AV446,3640 CPU UPGRADE
0249076	MODULE;AV959,32 DI FAST 24 V IEC
0249077	MODULE;AV245,MIXED I/O 16 DI 4
0249078	MODULE;6089.1.121.02,DISCONNECT
0249079	MODULE;7081 1051-00,HINGED LABEL
0249080	MODULE;AV212,PLUG IN MODEM
0249081	MODULE;MAESTRO,PLUG IN MODEM
0249082	MODULE;AVA00362,PLUG IN MODEM

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0249083	MODULE;AV184,PLUG IN MODEM RS232
0249084	MODULE;AFPN1653,PLUG IN MODULE
0249085	POWER SUPPLY;AV346,AC 85-264 V
0249086	POWER SUPPLY;AV346,DC 18-72 V
0249087	SHELF;AV103,3 I/O SLOTS BACKPLAN
0249088	SHELF;AV105,5 I/O SLOTS BACKPLAN
0249092	UNIT;AF509SAC,3 SLOTS 1 MIXED
0249093	UNIT;AF7509SDC,3 SLOTS 1 MIXED
0249094	UNIT;AF7509S12DC,3 SLOTS 1 MIXED
0249095	UNIT;AF7509LAC3,3 SLOTS 2 MIXED
0249096	UNIT;AF7509LDC3,3 SLOTS 2 MIXED
0249097	UNIT;AF7509L12DC3,3 SLOTS 2 MIXED
0249098	UNIT;AF7509MAC,3 SLOTS 2 MIXED
0249099	UNIT;AF7509MDC,3 SLOTS 2 MIXED
0249100	UNIT;AF7509M12DC,3 SLOTS 2 MIXED
0249101	UNIT;AF7509LAC5,5 SLOTS 2 MIXED
0249102	UNIT;AF7509LDC5,5 SLOTS 2 MIXED
0249103	UNIT;AF7509L12DC5,5 SLOTS 2 MIXED
0251916	UNIT;AV463COM,16AL MODULE COMPLETE
0251912	UNIT;FEP, FRONT END PROCESSOR

### 3.3 Support SLA

Support SLA per month with the following restoration times, severities and requirements, as per Table 1 – SLA Response Times	monthly
Firmware and Software upgrades on the FEPs and RTUs	

### 3.4 General Document Guideline

#### 3.4.1 Keywords

EAS, RTU, Alarms, FEP, Support

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### **3.4.2 Audience**

The document will be issued as a scope of work for the enquiry.

### **3.4.3 Assumptions and restrictions**

It is assumed that readers are familiar with the technology concepts discussed in this document.

## **4. Authorisations**

<b>Name</b>	<b>Designation</b>
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## **5. Revisions**

<b>Date</b>	<b>Rev.</b>	<b>Compiler</b>	<b>Remarks</b>
November 2021	2	Johan le Roux	Revision due
January 2017	1	Gudani Nekhavhambe	First Issue

## **6. Development Team**

The following people were involved in the development of this document

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## **7. Acknowledgements**

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