

	<b>Report</b>	<b>Gauteng Cluster</b>
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Title: **Enterprise VMS Scope of Work**      Unique Identifier: **GAC001**

Alternative Reference Number: **N/A**

Area of Applicability: **Engineering**

Documentation Type: **Report**

Revision: **2**

Total Pages: **4**

Next Review Date: **N/A**

Disclosure Classification: **CONTROLLED DISCLOSURE**

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## 1. INTRODUCTION

Eskom substations are key to ensure continuous supply of electricity to the customers. In recent years the theft and vandalism of Eskom assets has negatively affected this continuous supply of electricity. Hence it is critical to ensure that the substations are protected against theft and vandalism. The ability to monitor the substations with the aid of CCTV surveillance system and video management system continuously will aid in minimising the theft and vandalism.

## 2. SUPPORTING CLAUSES

### 2.1 SCOPE

This document details the scope of work that is required for a video management system and its camera systems for 4 sites.

#### 2.1.1 Purpose

The scope of work is a requirement for the process of request for proposal.

### 2.2 DEFINITIONS

Definition	Description
CCTV surveillance system	A system that consists of camera equipment as well as any monitoring and associated equipment for transmission and controlling purposes that is necessary for surveillance of a defined security zone.
Video Management System	Software used to connect to multiple DVRs or NVRs and view the footage from the attached cameras.

#### 2.2.1 Disclosure Classification

**Controlled disclosure:** controlled disclosure to external parties (either enforced by law, or discretionary).

### 2.3 ABBREVIATIONS

Abbreviation	Description
CPM	Control Plant Maintenance
DVR	Digital Video Recorders
NVR	Network Video Recorders
VMS	Video Management System

## 3. SCOPE OF WORK

### Video Management System

The Contractor:

- Design, supply and install hardware, software and all peripherals as per Eskom standard 240-91190304 Specification for CCTV Surveillance with Intruder Detection.
- Design, supply and Install a Video Wall as per Eskom standard 240-91190304 Specification for CCTV Surveillance with Intruder Detection.

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- Data Analytics capability to be incorporated into VMS as per Eskom standard 240-91190304 Specification for CCTV Surveillance with Intruder Detection.
- Shall relocate the existing VMS to the new server room in Eskom college and design to integrate with new VMS.
- The contractor shall test and ensure full compatibility with new and existing VMS and surveillance infrastructure.
- Ensure a Fixed once off Licence costs for VMS and Cameras is included.
- Shall quote for an additional cloud back up system to enable Eskom to decide on this option. This backup should conform to Eskom's Cyber security requirements (240-55410927).
- The VMS system shall be able to store at least 30 days of footage.
- System analytics should provide reporting on all incidents/movements at each site on demand on a real time basis.
- Shall Supply and install all cabling, including electrical works to ensure a completed and functional VMS system.
- Shall quote for a 3 year replacement warrantee as well as a 3 year maintenance plan.
- Shall provide training on installation, maintenance, functioning of the system and operator training.
- Supply and install all required Fire walls and DMZ equipment as per Eskom Specifications.

### **Server Room**

The Contractor :

- Shall Design, build and fit the server room in accordance to EPSUIP-606-253 – Generic Design Specifications for Control Centres. This will include redesign, supplying and installing of the cooling systems, fire suppression and extraction systems for the room
- Shall Design, supply and install a UPS system fit to supply the VMS Hardware, IT equipment( routers, Firewalls, computers and DMZ) and all screens in accordance to Eskom's standards(240-118870219 & 240-91190304) including the batteries.
- Shall supply and install all cabling to be supplied and fitted from IT cabinets and Telecoms hardware to ensure a complete system is installed and commissioned
- Shall ensure all Electrical works to be designed, supplied and installed by a suitably qualified and accredited contractor.

### **IT**

- Design, supply, install & Configure all related IT infrastructure for the proposed OT & IT integration as per the standard VMS architecture.

### **Control Room**

The Contractor:

- Shall design, supply, build and fit the new control room in accordance to EPSUIP-606-253 – Generic Design Specifications for Control Centres and all applicable SANS Standards.
- Shall design, supply and install all furniture and accessories to complete the new control room in accordance to EPSUIP-606-253- Generic Design Specifications for Control Centres.

### **CONTROLLED DISCLOSURE**

### **Eskom Telecoms**

- Supply, deliver and install all terminal equipment to ensure complete commissioning of end to end fibre installation, link to microwave towers, GPRS link and satellite links.
- Design, supply and install Eskom Telecoms Equipment to achieve 10MBps bandwidth between the 4((Babelegi Main, Moroka Main, Germiston North & Sandpit Substations) x sites and the Server room.
- Test & Commission OT Firewalls.

### **CCTV surveillance system with artificial intelligence capabilities**

Design, supply and install camera Infrastructure at 4(Babelegi Main, Moroka Main, Germiston North & Sandpit Substations) sites as per Eskom standard 240-91190304 Specification for CCTV Surveillance with Intruder Detection.

The Contractor:

- Shall ensure that the NVR should be able to store at least 30 days of footage.
- Shall design the system to ensure Data Analytic capabilities are incorporated which includes the following:
  - On demand video transmittal to Alpha Control
  - Movement detection
  - Facial recognition
  - Numberplate recognition
  - Fire/thermal and smoke detection
- Shall provide training on the design, installation and maintenance of the surveillance system.
- Shall test and ensure full compatibility with new and existing infrastructure.

## **4. DEVELOPMENT TEAM**

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

- Ariseelan Moodley
- George Daniel
- Nicolaas De Klerk
- Success Mendes
- Theo Kleynhans

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