

## PART 3: SCOPE OF WORK

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## C3.1: EMPLOYER'S WORKS INFORMATION

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# 1 Description of the works

## 1.1 Executive overview

The supplier shall design, supply, install, refurbish, maintain, support and provide services for the Integrated Physical Security System (IPSS) in the Transmission Grid and Eskom Telecoms “on an “as and when required” basis for the duration of the contract.

- The integrated physical security system shall comprise of the CCTV system, intrusion pre-detection system, IACS, alarm system, public address (PA) system, integration, and the Physical Security Information Management (PSIM) system.
- CCTV system shall comply to requirements of 240-91190304.
- Access control system shall comply to requirements of 240-102220945.
- Alarm system shall comply to requirements of 240-86738968.
- Intrusion pre-detection system shall comply to requirements of 240-170000691.
- Public address shall comply to requirements of 240-170000098.
- The PSIM system shall comply to requirements of DEM2412993 & 2425114 (LAD and BRS).
- The subsystems listed above shall be integrated as per 240-170000096.

## 1.2 Employer’s objectives and purpose of the works

Eskom seeks to establish a national framework agreement for the design, install, refurbish, maintain, support and provide services for the Integrated Physical Security System (IPSS) in the Transmission Grid and Eskom Telecoms “on an “as and when required” basis for the duration of the contract.)

## 1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
AFC	Approved for construction
OBL	Outside battery limits
PM	Project Manager
QS	Quantity Surveyor
EA	Engineering Assistant
AFC	Approved for construction
H V	High voltage
kV	Kilo volt
ORHVS	Operating Regulations for High Voltage Systems

## 2 Management and start up.

### 2.1 Management meetings

Site inaugural meeting will be held two weeks prior to commencement of site activities and the contractor shall avail safety file for auditing purposes.

Project progress meetings will be held in order to track work progress, safety, environmental and other issues. A contractor must avail himself to these meetings.

Meetings of a specialist nature may be convened at times and locations to suit the Parties, the nature and the progress of the *works*. Records of these meetings shall be submitted to the *Project Manager* by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the *conditions of contract* to carry out such actions or instructions.

### 2.2 Documentation control

The documentation supplied by the Contractor shall include be in both hard copy and electronic form. A minimum of three hard copies will be provided. Each document shall include, at a minimum, the following information:

- Title
- Status
- Revision
- References
- Purpose
- Description

### 2.3 Health and safety risk management

The Contractor shall at all times comply with the health and safety requirements prescribed by law as they may apply to the works. The Contractor shall comply with the health and safety requirements contained in in the following documents:

- SHEQ policy – 32 727
- Eskom Procurement and supply chain management procedure – 32-1034
- SHE Requirements for the Eskom Commercial process – 32- 726
- Contractor health and safety requirements – 32-136
- Integrated SHE organisation: roles and responsibilities and statutory appointments – 32-296
- Life saving rules – 240-62196227
- Working at heights – 32-418
- Eskom Vehicle safety specification – 32-345
- Employer's Health and Safety requirements - TST32-136

The authorization procedure for a permit to work shall be followed by the Contractor before commencing work on site. It is the Contractor's responsibility to ensure that a permit to work is obtained before access to the work can be given. It is the Contractor's responsibility to also ensure that the safety file has been audited by the Health and Safety Representatives before establishing site.

The Contractor must be in possession of current first aid certificate. The Contractor's trucks must have a valid and current crane test certificate with the truck driver and crane operator's certificate. All tools must have valid and current test certificates, which must be produced two weeks before site establishment.

The Contractor will only leave site once a written site instruction has been issued by an Eskom site representative. Working hours will be from 08h00 to 16h00 during week days (as per outages), weekend work to be carried out only on request by Eskom.

The Contractor is to have an Eskom certified and authorized person available in each area where work is being performed at all times in accordance with Eskom transmission standard TST32-136 contractor safety in a high voltage environment.

A complete safety and risk assessment must be done BEFORE the contractor starts works on site. The Site Supervisor will be monitoring the works continuously to ensure strict adherence to Safety rules. If needed, the contractor is to visit the site at the Contractor's own cost before work commences to familiarize with the scope of works and to assess any safety issues.

### **Eskom ORHVS Certificates**

The contractor is to compile a complete Safety File. The file needs to be audited and approved by the Transmission Services Risk and Safety Department:

For **Central Grid**: - Contact persons:

Lebohang Nkosi, Contact No. +27 82 807 1111

For **North East Grid**: - Contact persons:

Ramoatse Masiza, Contact No. +27 82 716 8118

For **North West Grid**: - Contact persons:

Phuthi Tlhako, Contact No. +27 72 893 1841

For **East Grid**: - Contact persons:

Bongeka Sitshange, Contact No. +27 82 513 5515

PLEASE NOTE that only once approval for the SAFETY FILE has been granted by Transmission Services Risk and Safety Department can the contractor commence with the works.

The Contractor's attention is drawn to the fact that other contractors might be on site and access and interfacing with them may be required. The Contractor shall allow safe access for other contractors and Eskom personnel when required.

The Contractor shall make his own arrangements for the provision of accommodation for his employees. No accommodation or camping will be allowed on site.

## **2.4 Environmental constraints and management**

The Contractor is required to ensure that all goods, services or works supplied in terms of the tender/contract/order conform to all applicable environment legislation, Authorisations, EPC32-727: Eskom SHEQ Policy, ST32-726: SHE Requirements for the Eskom Commercial Process and Project Specific Environmental Management Plan (EMP).

The Eskom EMP provides the Aspects and Impacts that will require management and must be followed strictly. The Contractor shall prepare a separate mitigation plan for all environmental concerns raised through the EMP and in any other relevant forum. The contractor must develop method statements based on the EMP. All developed method statements must be approved by the Employer.

Any changes to the approved EMP shall be reported and approved by Environmental Officer and Project Manager prior to the commencement of work and during construction. The supplier must ensure that all sub-contractors' environmental management programmes comply with the contract shall define the specific system elements applicable to the subcontractor's scope of work or supply.

Environmental meetings between Eskom and the Contractor may be held regularly and copies of the minutes may be submitted to Eskom on request. The contractor is to send a flash report for any environmental incidences that has occurred on site as soon as possible or within 24 hours to the SS /Grid Environmental and PM clearly stating any impact to the environment.

Contractor must now sign-off TRM-FM-0038 – Eskom Holdings Transmission division contractor environmental compliance Proformas.

If waste is generated during project, it must be disposed at a registered site and contractor shall retain records of disposal.

Deviations from these requirements will be regarded as a non-conformance. Should there be a concern regarding environmental performance and non-conformance to environmental requirements, management engagements and interventions will be introduced to determine a means to addressing the shortfalls. Once these interventions have been explored and exhausted, then the Eskom supplier disciplinary process must be followed.

The Contractor is to send a flash report for any environmental incidents that have occurred on site as soon as possible or within 24 hours to the Grid Environmental Advisor clearly stating any impact to the environment.

NB: The Contractor is to compile a complete environmental file. The file needs to be audited and approved by the Grid Environmental Department prior to commencement of work.

## 2.5 Quality assurance requirements

The following standards contain provisions that, through reference in this text, constitute provisions of this specification. At the time of publication the revisions indicated were valid. All standards are subject to review, and parties entering into service agreements based on this specification are encouraged to investigate the possibility of applying the most recent revisions of the standards listed below. Information on currently valid national and international standards may be obtained from the Information Centre at Megawatt Park and Technology Standardisation Department.

In the event of conflict between documents invoked here and the contents of this specification, the contents of this specification shall be considered to have preference. Such conflict shall be pointed out to the Employer for confirmation.

- Eskom NWS 1674 - "Standard Specification for approval of drawings submitted by Contractors and Contractors."
- Project Quality plan

The Employer requires that the Contractor operate a quality management system as stated in the Scope. The Employer requires that the Contractor provide a quality policy statement and quality plan which complies with requirements stated in the Scope.

## 2.6 Programming constraints

A comprehensive and fully detailed programme is to be submitted within the seven (7) days after the inaugural meeting and should be in MS Project format, indicating all milestones and critical dates. This programme must first be approved by the Project Manager and must be updated monthly or as requested by the Project Manager.

The following dates shall be clearly reflected on the programme:

Starting and completion dates for all activities as well as relevant key dates for hold or witness points. All relevant significant activities shall be shown in order to monitor the progress on site or in the workshop. The programme shall also reflect a 2-week period for inspection and correcting of Defects before the completion date.

Updated programmes must be available at all site meetings reflecting progress to date.

## 2.7 Contractor's management, supervision and key people



The Contractor is to submit an organogram showing all key people involved in the contract 7 days after contract award. All key personnel must be appointed in writing, must be current for the specific site and area of work and must be kept on file.

## 2.8 Invoicing and payment

The following details shall be shown on or attached to each Invoice to show how the amount due has been assessed:

The Contractor shall address the tax invoice to **ESKOM HOLDINGS SOC LIMITED (Reg No. 2002/015527/06)** and include on each invoice the following information

- Name and address of the Contractor and the Employer's Agent;
- Contractor's VAT registration number;
- The Employer's VAT registration number **4740101508;**
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- Other amounts to be paid to the Contractor;
- Less amounts to be paid by or retained from the Contractor;
- The change in the amount due since the previous payment being the invoiced amount - excluding VAT, the VAT and including VAT;

The Contractor attaches the detailed assessment of the amount due to each tax invoice showing the Price for Work Done to Date for each item in the Price List for work which he has completed.

A tax invoice shall be submitted on completion of the works in the format required. A breakdown of all work completed during the previous period shall be attached. Invoicing and relevant details will be discussed at site hand-over meeting. Payments will be processed once all completion certificates and invoices are submitted

All quantities claimed must be verified and signed by the site supervisor on the 20th of each month or within 1 week after each sectional completion and the signed BOQ must accompany the invoice which should be submitted to the PM before the 25th of each month. Late invoices will be deferred to the following month and no concessions will be made.

## 2.9 Insurance provided by the *Employer*

Refer to Core Clause 87.1

## 2.10 Contract change management.

Where standard forms are available, they should be used.

## 2.11 Provision of bonds and guarantees.

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer's* right to termination stated in this contract.

## 2.12 Records of Defined Cost, payments & assessments of compensation events to be kept by the *Contractor*

Defined costs are actual costs incurred by the Contractor. These costs should not include profit or company overheads. All compensation events will only be paid on defined costs.

In an event of labour costs, the Contractor is required to provide pay slips of the employees used. The labour mark-up indicated in this contract will be added to these actual costs to form the final value of the compensation event.

In the event that the Contractor is required to supply anything other than people, the Contractor is required to provide a copy of his Contractors invoice. The profit and overhead mark-up indicated in this contract will be added to these actual costs to form the final value of the compensation event.

Copies of payslips and Contractors invoices are to accompany the requests for compensation events.

The Contractor shall under no circumstances refuse additional work on the basis of costs as defined above

## **2.13 Training workshops and technology transfer**

Refer to the document "Generic Technical requirements for Physical Security Technologies Contracts **(240-170000723)**", point 3.9

### 3 Engineering and the *Contractor's* design

#### 3.1 *Employer's* design

The Contractor is to design the Integrated Security System and associated equipment (hardware/software etc.) according to the associated technical specifications listed below:

- CCTV system shall comply to requirements of 240-91190304.
- Access control system shall comply to requirements of 240-102220945.
- Alarm system shall comply to requirements of 240-86738968.
- Intrusion pre-detection system shall comply to requirements of 240-170000691.
- Public address shall comply to requirements of 240-170000098.
- The PSIM system shall comply to requirements of DEM2412993 & 2425114 (LAD and BRS).
- The subsystems listed above shall be integrated as per 240-170000096.

#### 3.2 *Parts of the works which the Contractor is to design*

The Contractor is to design the Integrated Security System and associated equipment (hardware/software etc.) according to the associated technical specifications listed below:

- CCTV system shall comply to requirements of 240-91190304.
- Access control system shall comply to requirements of 240-102220945.
- Alarm system shall comply to requirements of 240-86738968.
- Intrusion pre-detection system shall comply to requirements of 240-170000691.
- Public address shall comply to requirements of 240-170000098.
- The PSIM system shall comply to requirements of DEM2412993 & 2425114 (LAD and BRS).
- The subsystems listed above shall be integrated as per 240-170000096.

*Contractor* is to design all the works as per standards listed in 3.1.

#### 3.3 *Procedure for submission and acceptance of Contractor's design*

The Contractor does not proceed with the relevant work until the Project Manager has accepted his designs. The procedure for submission and acceptance of Suppliers design shall be as per "Generic Technical requirements for Physical Security Technologies Contracts (240-170000723)

#### 3.4 *Other requirements of the Contractor's design*

Refer to "Generic Technical requirements for Physical Security Technologies Contracts (240-170000723) and SOW for integrated Physical Security System (240-170001030)

The contractor's design shall be presented to Eskom's PTM&C design review team (DRT) and Eskom's IT committee for acceptance and the designs need to conform to Eskom Specification provided.

The contractor's design shall be signed off by an ECSA registered professional (Pr Eng/Pr Tech ).

### 3.5 Use of *Contractor's* design

The Employer may use and copy the Contractors design for any purpose connected with construction , use, alteration or demolition of the works unless otherwise stated in the Works Information and for other purpose as stated in the Works Information.

### 3.6 Design of Equipment

Refer to the document " SOW for integrated Physical Security System (240-170001030)"

### 3.7 Equipment required to be included in the *works*

Only equipment that meets the international standards and comply with recommendations from bodies such as the SABS will be accepted.

Refer to the document " SOW for integrated Physical Security System (240-170001030)"

### 3.8 As-built drawings, operating manuals and maintenance schedules

The system shall be supplied with documentation and drawings listed in section 15 of 240-86738968

#### Handbooks

- a) Handbooks must be sufficiently comprehensible to Eskom's satisfaction.
- b) The handbooks must clearly show the system circuitry. The Supplier must clearly display test points, supply voltage, signal voltages, typical values at terminals, etc.
- c) 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.
- d) The Supplier is responsible for any costs incurred due to updating or changing descriptions, drawings, equipment, etc.
- e) If there are any errors discovered in the manuals, the Supplier shall rectify these and send them back to Eskom at the Suppliers expense.
- f) 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 through Eskom's Group IT.
- g) The Supplier must provide a minimum of 3 sets of hardcopy manuals, free of charge, once a contract is established.
- h) The Supplier must provide a soft copy on a memory stick, free of charge, once a contract is established. The memory sticks should be free of malware.
- i) Eskom reserves the right to order additional manual copies should the need arise.

## 4 Procurement

### 4.1 People

#### 4.1.1 Minimum requirements of people employed on the Site

The Contractor shall comply with the Employer's site requirements in the use of labour for the works

#### 4.1.2 BBBEE and preferencing scheme

The Contractor shall comply with the Employers's Broad Based Black Economic Empowerment (B-BBEE) or preferencing scheme measures

#### 4.1.3 Accelerated Shared Growth Initiative – South Africa (ASGI-SA)

The Contractor complies with and fulfils the Contractor's obligations in respect of the Accelerated and Shared Growth Initiative - South Africa in accordance with and as provided for in the Contractor's ASGI-SA Compliance Schedule stated below

The Contractor shall keep accurate records and provide the Project Manager with reports on the Contractor's actual delivery against the above stated ASGI-SA criteria.

The Contractor's failure to comply with his ASGI-SA obligations constitutes substantial failure on the part of the Contractor to comply with his obligations under this contract.

#### 4.1.4 SD&L Compliance Matrix

Prospect refurbishment				
Site TABLE 1: SUPPLIER DEVELOPMENT AND LOCALISATION COMPLIANCE MATRIX FOR SUPPLIERS AND CONTRACTOR				
Criteria	Weight (%)	Total Target (%)	Proposed Target	Total Overall Weighted Score
Local Content to SA	100%	100%	0%	0.00%
Total	100%			0.00%
Total Supplier Development and Localisation Score				0.00%

  

To be completed by Tenderer	
Number of jobs to be <b>created</b> as a result of this contract	
Number of jobs to be <b>retained</b> as a result of this contract	

  

To be completed by Tenderer	
Company: _____	
Designation: _____	
Signature: _____	
Date: _____	

  

Supplier Development and Localisation Representative	
Name: _____	
Signature: _____	
Date: 2 _____	

### 4.2 Subcontracting

#### 4.2.1 Preferred subcontractors

The Contractor submits the names of each proposed subcontractor to the Employer for acceptance. The Contractor does not appoint a subcontractor until the Employer has accepted him.

#### **4.2.2 Subcontract documentation, and assessment of subcontract tenders**

The NEC system is compulsory for all subcontract documentation.

#### **4.2.3 Limitations on subcontracting**

The *Contractor* submits the names of each proposed subcontractor to the *Employer* for acceptance. The *Contractor* does not appoint a subcontractor until the *Employer* has accepted him.

#### **4.2.4 Attendance on subcontractors**

The *Contractor* is responsible for providing the Works as if he had not subcontracted.

### **4.3 Plant and Materials**

#### **4.3.1 Quality**

The *Contractor* shall control his activities and processes in accordance with Eskom's Quality Requirements for Procurement of Assets, Goods & Services QM58 as amended. Quality requirements are described in the Project Quality Plan document number TB-PQA&QC-TX-PQP-2009

#### **4.3.2 Plant & Materials provided "free issue" by the *Employer***

All other Plant and Materials are to be provided by the Contractor. All New Plant and Materials will be free from defects. No Reconditioned Plant and/or Materials are regarded as new under any circumstances.

The Contractor will not use Plant or Materials which are generally recognised as being unsuitable or otherwise to be avoided for the purpose for which they are intended.

#### **4.3.3 *Contractor's* procurement of Plant and Materials**

- 4.3.3.1 The Contractor shall supply and use suitable and sufficient construction plant, tools and equipment and materials as may be required to carry out the works efficiently.
- 4.3.3.2 The Contractor at all times shall provide protection for all plant and materials from damage or loss due to weather, fire, theft, unexplained disappearance or similar.
- 4.3.3.3 The Contractor at all times protects from damage, due to the Contractor's service to provide the works, all plant and materials and equipment and all items on the site that are the property of the Employer or Others.
- 4.3.3.4 The Contractor provides or manages, as part of Works everything necessary for the receiving, inspection, safe keeping and storage, issuing, handling, management and administration of all plant and materials purchased by the Contractor.
- 4.3.3.5 The Contractor shall provide through the Project Manager and relevant Construction Management personnel the documentation for the warranties from suppliers of all any relevant plant and material used, as well as the vendor data of the suppliers.
- 4.3.3.6 The Contractor will ensure to provide all guarantees and warranties of the plant & materials used in the Works to the Project Manager and Employer when construction is completed.
- 4.3.3.7 The Contractor supplies the labelling for the Plant that forms part of the works. The Contractor provides labels for the Plant according to the Eskom specification.
- 4.3.3.8 The labels are affixed in such a way that they are easily legible and not obstructed by the wiring or by other components.
- 4.3.3.9 Clamping methods applied to the labels ensures that removal of the labels requires force.

- 4.3.3.10 The Contractor supplies the Project Manager, for verification and acceptance purposes, with a label list showing the text only. The Project Manager will approve the positioning and designation of labels.
- 4.3.3.11 Abbreviations to descriptions on the labels are generally not acceptable. Where abbreviations are unavoidable, due to the limited number of characters that can be engraved/etched on labels, the abbreviations are submitted to the Project Manager for acceptance. The Contractor to make use of the Employer's Standard Plant Related Abbreviations.

#### **4.4 Spares and Consumables**

Refer to the document "SOW for integrated Physical Security System **(240-170001030)**"

#### **4.5 Tests and inspections before delivery**

Requirements are described in the document as indicated "Generic Technical requirements for Physical Security Technologies Contracts **(240-170000723)**"

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## 5 Construction

### 5.1 Temporary works, Site services & construction constraints

#### 5.1.1 *Employer's Site entry and security control, permits, and Site regulations.*

- Entry to the site is governed by the Grid's Engineering Assistant and the Contractor shall adhere to all regulations given.
- All employees are to sign the Workers declaration on entering and leaving the working area.
- The *Contractor* is to have an Eskom certified and authorized ORHVS person available on site at all times in accordance with Eskom's Construction Safety, Health and Environmental Management 32-136.
- The authorized ORHVS person is to have a valid first aid level 2 certificate.
- The authorization procedure for a permit to work shall be done before the *Contractor* commences work on site.
- It is the *Contractor's* responsibility to ensure that the authorization procedure for a permit to work is obtained before access to the work can be given.
  - ❖ For **Central Grid** Please contact Mr Bongumusa Mnguni 013 693 2776 or 083 999 4103 to arrange for an interview for authorization.
  - ❖ For **East Grid** Please contact Mr Flip Lingenfelder 035 787 8719 or 076 645 5458 to arrange for an interview for authorization.
  - ❖ For **North-East Grid** Please contact Mr Donovan Bovey 013 693 2084 or 079 401 1027 to arrange for an interview for authorization.
  - ❖ For **North- West Grid** Please contact Mr Steven Banda 011 871 2060 or 079 780 7585 to arrange for an interview for authorization.
- The Contractor will be required to have an Eskom certified and authorized ORHVS person available in each area where work is being performed.

#### 5.1.2 *Restrictions to access on Site, roads, walkways and barricades.*

Access on site is restricted to the area in which the Contractor is working and which has been barricaded. Strictly no movement outside the barricaded working area unless escorted by authorized HV Plant personnel.

#### 5.1.3 *People restrictions on Site; hours of work, conduct and records.*

- The *Contractor* is to supply Eskom with Police clearance for all the employees on site before Work commences.
- The normal working hours shall be from 07:30 am to 04:30 pm. Any work done outside this duration must be arranged through the senior HV Plant supervisor.

#### 5.1.4 *Health and safety facilities on Site*

There are no Toilet facilities available on site. The Contractor is to provide his own toilet facilities on site and ensure that these facilities are kept in a clean condition to Eskom's satisfaction. No work on site will be allowed to commence before the toilet facilities are available on site.

#### 5.1.5 *Environmental controls, fauna & flora, dealing with objects of historical interest*

The *Contractor* shall control his activities and processes in accordance with Eskom's Environmental Requirements TST41-120.

The Contractor shall establish a refuse control system. All waste is to be collected and disposed of as required by Eskom and the Local Authority.



#### **5.1.6 Title to materials from demolition and excavation**

All the materials from excavation and demolition must be disposed of by the *Contractor* except where expressly stated by the PM or the relevant staff from the Grid. All rubble and other materials must be classified, weighed and transported to a registered dumping site.

#### **5.1.7 Cooperating with and obtaining acceptance of Others**

The *Contractor's* attention is drawn to the fact that other contractors will be on site and access and interfacing with them will be required. The *Contractor* shall allow safe access for other contractors and Eskom personnel when required.

#### **5.1.8 Publicity and progress photographs**

Warning signs and notices must be clearly displayed at all sites where work is taking place. It is the responsibility of the *Contractor* to ensure that all its workers and visitors adhere to all signs. No photographs are to be taken without the permission of the E.A.

#### **5.1.9 Contractor's Equipment**

All equipment must be registered in the equipment register and as per 32-136. The *Contractor* is responsible for his own insurance of his equipment. The *Contractor* is to take stock of his material and equipment on a regular basis and any shortage to be reported to the Project Manager immediately, stating if it is hired or owned.

#### **5.1.10 Equipment provided by the Employer**

Not applicable

#### **5.1.11 Site services and facilities**

- All the water necessary for construction purposes must be provided for by the *Contractor*. It is the *Contractor's* responsibility to test any water before using it for construction purposes. The *Contractor* will submit Test Certificate for the water used on site.
- Any measures which the *Contractor* may require to maintain continuity and quality of supply shall be arranged by him at his own expense.
- The *Contractor* shall provide everything else necessary for providing the Works.

#### **5.1.12 Facilities provided by the Contractor**

The *Contractor* supplies all plant and materials required for providing the Works.

There are no Office or Telephone facilities available on site. The *Contractor* is to provide his own facilities on site and ensure that these facilities are kept in a clean condition to Eskom's satisfaction.

There are no Toilet facilities available on site. The *Contractor* is to provide his own toilet facilities on site and ensure that these facilities are kept in a clean condition to Eskom's satisfaction. No work on site will be allowed to commence before the toilet facilities are available on site.

#### **5.1.13 Existing premises, inspection of adjoining properties and checking work of Others**

The contractor to take note of the surrounding equipment and buildings during construction.

#### **5.1.14 Survey control and setting out of the works**

The *Contractor* is responsible for setting out the works as shown on the drawings

### 5.1.15 Excavations and associated water control

All necessary precautions shall be taken to ensure that deep excavations are safe and that the sides are stable, if not they shall be battered. All excavations are to be properly barricaded at all times.

### 5.1.16 Underground services, other existing services, cable and pipe trenches and covers

Before any excavation is commenced, it will be the responsibility of the *Contractor* to ascertain from the "Engineering Assistant" the position of any existing services on site. Once these are indicated to the *Contractor* they shall be deemed "known". Any costs incurred for repairs to any "known" services shall be for the *Contractor's* account.

### 5.1.17 Control of noise, dust, water and waste

The *Contractor* shall control his processes and procedures so as to minimise noise and dust. All waste is to be collected and disposed of as required by Eskom and the Local Authority.

### 5.1.18 Sequences of construction or installation

- The Contractor is responsible for the construction and installation of the equipment according to the Contractor's construction and installation plans.
- The Contractor complies with the Employer's Work Co-ordination Process.
- If not included in the contract, the Project Manager will notify the Contractor of the requirements of the Work Co-ordination Process prior to the date of site establishment by the Contractor.

### 5.1.19 Giving notice of work to be covered up

The *Contractor* is to give the *Site Supervisor* at least 3 days' notice before covering up the work

### 5.1.20 Hook ups to existing works

The adjacent plant and equipment may not be modified without written permission from the Project Manager. The Contractor complies with Eskom Life Saving Rules and will report any non-conformance.

## 5.2 Completion, testing, commissioning and correction of Defects

### 5.2.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and Others from doing their work.

	Item of work	To be completed by
	As build drawings	Within 14 days after Completion

### 5.2.2 Use of the *works* before Completion has been certified

To allow for the use of some of the equipment/systems of the security system may need to be made available before the works are completed. This will be managed by the Site Supervisor to ensure harmony and coordination of all on-going works.

### 5.2.3 Materials facilities and samples for tests and inspections

Not applicable

#### **5.2.4 Commissioning**

Commissioning is to be done after Completion of all the works.

#### **5.2.5 Start-up procedures required to put the *works* into operation**

The Contractor gives the Project Manager written notice that the works are ready for energisation. Such notice will suit the requirements of the Employer but will not, unless otherwise agreed, be less than 48 hours or more than fourteen (14) calendar days.

No alterations or adjustments will be made to the works after functional checks are done without the Project Manager's written permission.

At this stage the following must have been achieved:

- Installation and pre-commissioning completed.
- Testing report and the associated certificates received.
- Signed erection and safety clearance certificates.
- Final Draft of the Technical, Operating, Maintenance manuals delivered.
- All Quality Control Plan (QCP) documentation received.

#### **5.2.6 Take over procedures**

The *Contractor* is to arrange an inspection at least 1 week before completion to inspect and identify any outstanding or incorrect items.

#### **5.2.7 Access given by the *Employer* for correction of Defects**

The Project Manager arranges for the Employer to allow the Contractor access to and use of a part of the works which has been taken over if needed to correct a Defect. After the works have been put into operation, Entry to the site is governed by the Grid's Engineering Assistant and the Contractor shall adhere to all regulations given.

#### **5.2.8 Performance tests after Completion**

The procedure for performance test is specified under the project quality plan document.

#### **5.2.9 Training and technology transfer**

Refer 3.9 of 24017000723

#### **5.2.10 Operational maintenance after Completion**

Shall be in line with the requirements as per 240-170000723

## 6 Plant and Materials standards and workmanship

### 6.1 Investigation, survey and Site clearance

Some contracts may require the *Contractor* to carry out further investigation of existing facilities or of the Site before commencing final design. There could be constraints on Site clearance especially in pipeline or transmission grid servitudes.

### 6.2 Building works

Not applicable

### 6.3 Civil engineering and structural works

Title	Date or revision	Tick if publicly available
<b>Eskom Standard Specifications</b>		
Construction Safety, Health and Environmental Management 32-136	Latest Rev.	✓
Eskom Cardinal Rules 32-421	Latest Rev.	✓
Safety, Health and Environmental (SHE) Policy 32-94	Latest Rev.	✓
32-726 SHE Requirements for Eskom Commercial Process	Latest Rev.	✓
(SHE) Policy 32-727	Latest Rev.	✓
Smoking Procedure 32-36	Latest Rev.	✓
Vehicle and Driver Safety Management 32-93	Latest Rev.	✓
Eskom Vehicle Safety 32-345	Latest Rev.	✓
Working at Heights 32-418	Latest Rev.	✓
TST41-120 Environmental Requirements for the Procurement of Assets, Goods and Services.	Latest Rev.	✓
TST0015 Training, assessment and authorization of persons for the operation & maintenance of the Power System Contractor Safety in a High Voltage Environment	Latest Rev.	✓
TPC41-283 Non Conformance Procedure	Latest Rev.	✓
Occupational Health and Safety Act No. 85 of 1993	Latest Rev.	✓
QM58 Quality Requirements for Procurement of Assets, Goods & Services.	Latest Rev.	✓
<b>Eskom Particular Specifications</b>		
EPS 1 Specification for Earthmat	Attached	
EPS 2 Specification for Stone surfacing of yard	Attached	
EPS 3 Variations and Additions to Standardised Specifications	Attached	
<b>Standardised Specifications</b>		
SABS 1200 Standardised Specification for Civil/Electrical Engineering Construction		✓
SANS 2001 CC1:2007 Construction Works Part CC1: Concrete Works (structural)		✓
SANS 2001 CS1:2007 Construction Works Part CS1: Structural steelwork		✓
NWS 1058 Safety at Construction Sites		✓

#### **6.4 Process control and IT works**

The Physical Security Information Management (PSIM) System consists of all software, hardware, middleware (for interfaces), operating systems, database and security software that is required to ensure a complete functional system, to meet the requirements. Designs and software associated with PSIM interfaces required to meet the functional and/or technical requirements must be approved by the solution architect before Designs / configurations can be implemented.

#### **6.5 Other [as required]**

Not applicable

7 List of drawings

7.1 Drawings issued by the Employer

This is the list of drawings issued by the Employer at or before the Contract Date and which apply to this contract.

Note: Some drawings may contain both Works Information and Site Information.

Drawing number	Revision	Title

## **C3.2 *CONTRACTOR'S* WORKS INFORMATION**

Not applicable