




	<b>SCOPE OF WORK</b>	<b>Generation Komati Power Station</b>
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Title: <b>The Provision of Control instrumentation and Electrical Maintenance services during emergencies and normal working hours</b>	Unique Identifier:	<b>285-169464</b>
	Alternative Reference Number:	
	Area of Applicability:	<b>Komati Power Station</b>
	Documentation Type:	<b>C&amp;I Maintenance/Engineering</b>
	Revision:	<b>0</b>
	Total Pages:	<b>20</b>
	Next Review Date:	<b>February 2028</b>
Disclosure Classification:	<b>CONTROLLED DISCLOSURE</b>	

<b>Compiled by</b>	<b>Functional Responsibility</b>	<b>Authorized by</b>
		
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Date: 04/03/2025	Date: 2025/03/04	Date: 2025/03/05
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## **1. INTRODUCTION**

Komati Power Station has been taken out of the Eskom Generation asset register for electrical power generation from end of October 2022, leaving Water treatment plant, Compressor plant and other auxiliary plants Inservice.

This document was constructed to highlight the need of maintenance services for the maintenance of the electrical plants, Control & Instrumentation plants at Komati Power Station. The Station has been utilising service providers for maintenance activities since the return to service of the station. A 10-month contract is in place for electrical maintenance since the 1<sup>st</sup> of May 2022 ending 28<sup>th</sup> February 2023, while Control & Instrumentation contract has been in place since 01 May 2017 and ending 31<sup>st</sup> December 2022.

Since Komati Power Station is moving to the renewable energy domain. Maintenance of some of the infrastructure like buildings, electrical reticulation, Water Treatment Plant, Compressor Plant, and all other plants which are still in-service for servicing Komati Power Station personnel, Komati Village, surrounding Farms and Mines around Komati Power Station, for effective operation of the plants which are in-service require maintenance services for the plant availability and reliability. As well as offer support for the repowering and repurposing project at Komati Power Station.

Komati Power Station requires both services for Electrical Maintenance and Control & Instrumentation services. This document will outline two scopes namely Electrical Maintenance and Control & Instrumentation that will be covered by one service provider (Maintenance Contract).

## **2. SUPPORTING CLAUSES**

### **2.1 SCOPE**

#### **2.1.1 Purpose**

The purpose of this establish contract The Provision of Control instrumentation and Electrical Maintenance services during emergencies and normal working hours at Komati Power Station

#### **2.1.2 Applicability**

The following is lists of the Application Servers which can be affected:

- Common Plant, units, offices and Water Treatment plant at Komati Power Station.
- This document is applicable to Komati Power Station – Maintenance and Engineering teams.

### **2.2 NORMATIVE/INFORMATIVE REFERENCES**

Parties using this document shall apply the most recent edition of this document and the documents listed in the following paragraphs.

#### **2.2.1 Normative**

- [1] Use plant safety regulations book reference no.3/99 PR 3305 rev.3
- [2] Nr. 166665 – T3000 Admin Manual
- [3] Occupational, Health and Safety, Act Number 85 of 1993

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- [4] 240-49230111: Hazard and Operability Analysis (HAZOP) Guideline (Rev 1)
- [5] 240-30008949: Safety, Health and Environmental Specifications for Contractors
- [6] 240-28463367: SHE Organization
- [7] 240-62196227: Life Saving Rules
- [8] 36-681: Generation Plant Safety Regulations
- [9] 32-846: ORHVS Regulations
- [10] 240-56227516: LV Switchgear and Control Gear Assemblies and Associated Equipment for
- [11] Voltage up to and Including 1000V AC and 1500V Standard
- [12] 240-56227443 - Requirements for Control and Power Cables for Power Stations Standard
- [13] 0.00/1310: Eskom Standard Code for Power and control cables
- [14] 240-56356396: Earthing and Lightning Protection Standard
- [15] 054-393: Earthing Standards
- [16] 240-55714363: Coal Fired Power Stations Lighting and Small Power Installation Standard
- [17] 235-1363- Quality control plan procedure
- [18] ISO-9001
- [19] 32-345-Eskom vehicle safety specifications

## **2.2.2 Informative**

None

## **2.3 DEFINITIONS**

Work Package – are documents prepared by the Planner to be used before, during and after execution of work.

Distributed Control System – is a system for use to control, monitoring, engineering, alarming, and archiving control process and equipment

Container–provides the execution environment for Automation Functions and proxies configured in function diagrams

Definition	Explanation
Electrical Artisan	A person who is qualified and authorized in writing to perform electrical work. An electrical training certificate must be produced
Electrical supervisor	A person who indorses an electrical qualification and he will be responsible for supervision of electrical work.
Deficiencies	It means deviation from the original plant design or intent of use
MM2 relay	It's a population of a type of relay or series of relays

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### 2.3.1 Classification

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

### 2.4 ABBREVIATIONS

Abbreviation	Description
A	Amps
ABS	Automatic Braking System
COC	Certificate of compliancy

Abbreviation	Description
CT	Current Transformer
HV	High Voltage
KW	Kilo Watt
LV	Low Voltage
MV	Medium Voltage
ORHVS	Operating Regulations Of High Voltage System
OHSAS	Occupational Health and Safety assessment series
PSR	Plant Safety Regulations
PPE	Personal Protective Equipment
PC	Personal Computer
PI	Polarization Index
PRD	Pressure Relieve Device
QCP	Quality Control procedure
SHEQ	Safety Health Environmental and quality
SAP	System Application for Programs
VAC	Voltage Alternating Current
VDC	Voltage Direct Current
VT	Voltage Transformer
V	Voltage
C&I	Control and Instrumentation
FFFR	Fossil Fuel Firing Regulations
NEC	New Engineering Construction Contract 2013
NCR	Non-Conformance Report

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<b>OEM</b>	Original Equipment Manufacture
<b>OSH act</b>	Occupational Health and Safety Act of South Africa
<b>LP</b>	Low pressure
<b>RBO</b>	Reliability Based Optimisation
<b>TSC</b>	Term Service Contract
<b>OBL</b>	Outside Battery Limits
<b>PLC</b>	Programmable systems
<b>SO3</b>	Sulphur trioxide
<b>RBO</b>	Reliability Based Optimisation

## **2.5 ROLES AND RESPONSIBILITIES**

It will discuss on contract wards

## **2.6 PROCESS FOR MONITORING**

The document will be reviewed as and when changes are made to the plant and on the set review date on the cover page.

## **3. SCOPE OF WORK**

### **3.1 WORKS INFORMATION**

#### **Electrical Maintenance & Control & Instrumentation scope of work requirements**

The scope of work is for the provision of maintenance of electrical systems and servicing for outage scope work related to electrical systems, Projects, and Engineering

This contract includes any activities required to alter equipment or plant from its original design base, such activities will be referred to as “Deficiencies”, the contractor may be required to assist in some of the engineering projects as detected by the SCCC.

#### **3.1.1 Plants for Electrical Maintenance.**

##### **a) Transformers**

- All routine maintenance, Site outages and opportunity maintenance and repairs on transformers and transformer auxiliaries.
- The following work won't be included into the scope for transformers as other contractor has been contracted during outages to perform these functions:
  1. Generator transformer tap changers.
  2. Buchholz relay calibration and replacement

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3. Transformer oil regeneration
4. Oil samples
5. Generator and unit transformer: PRD's, Bushing replacement, Temperature gauges, Transformer replacement

**b) 6.6KV Medium Voltage Switchgear Boards**

- All routine maintenance, Site outage and opportunity maintenance and repairs to all 6.6KV Medium voltage boards.
- Major incidents including cable trenches, CT failures and breaker flash overs.
- The following will be excluded from the contract since it is contracted to another contractor:
  1. Arch Protection
  2. Partial discharge
  3. Relay Settings
  4. Control Panel settings and maintenance

**c) 380V AC Low Voltage Switchgear Boards and 220V DC Boards**

- All routine maintenance, Site outages and opportunity maintenance, testing, fault finding and repairs to all 380VAC and 220VDC boards feeding from Komati Power station electrical reticulation system.
- Maintenance and fault finding of MM2 relays on all Electrical boards
- Repairs as a result of all abnormal incidents on this system will be performed as part of this contract.
- Major incidents will include but not limited to hot connections, breaker flash overs, cable failure etc.
- The following will be excluded from the contract since it is contracted to another contractor:
  1. Incomer protection

**d) Generator and Excitation system**

- All routine Maintenance, Site outages, opportunity maintenance, testing and fault finding will be covered in this contract.
- Unit 5,6 and 7 Air Cooled Generators and exciter (inclusive of the implementation and the control of access to clean condition area as per Eskom's clean condition procedure.
- The following work won't be included into the scope for Generator excitation as other contractor has been contracted during outages to perform these functions
  1. Perform protection secondary injection and calibration tests as per standard procedure to prove protection relays' protection schemes and settings
  2. Perform function tests to prove entire circuit and protection philosophies
  3. Perform secondary injection and function tests on fault recorders to ensure correct data capture and interpretation.
  4. Perform alarms 'controls' indicators and interface tests.
  5. Pre-commissioning before energising circuits
  6. Take current and voltage measurements after work is complete and plant is energized

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7. Primary injection tests
8. Generator primary fault application
9. Generator phasing and synchronisation
10. Generator short circuit
11. Pre-commissioning tests before energising protection circuits

**e) MV Motors**

- All routine maintenance, Site outage and opportunity maintenance
- Cable testing, joining, extension and brazing on MV motors will be covered on this contract.
- The maintenance of winding coolers of motors.
- PI and IR testing of motors
- The following work shall not be included on this contract:
  1. Tan delta testing motors
  2. Repair, Rewind, and overhaul of MV motors
  3. Load testing of MV motors

**f) LV motors**

- All routine maintenance, Site outage and opportunity maintenance
- LV motor fault finding, testing and repairs on all 380VAC, 220VAC and 220VDC motors
- Bearing change and overhaul of 380VAC and 220VAC up to 30KW.
- The following work shall not be included in this contract:
  1. Rewind of motors
  2. Bearing change and overhaul of motors above 30KW, 220VAC and 380VAC

**g) Domestic circuits**

- All maintenance testing, repairs, outage, modification, and fault finding on 220VAC, 220VDC and 380 VAC electrical circuits and issuing of COC's thereafter.
- Supply of 220VAC to C&I loads.

**h) Diesel Generators and Pumps**

- All routine Maintenance, Site outage and opportunity maintenance,
- Testing, Fault finding and Repairs on the Diesel Generators and pumps.
- The following outage work won't be included into the scope diesel generators as it will be contracted out

Perform protection secondary injection and calibration tests as per standard procedure to prove protection relays' protection schemes and settings

1. Perform function tests to prove entire circuit and protection philosophies
2. Perform alarms 'controls' indicators and interface tests.

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3. Pre-commissioning tests before energising protection circuits
4. Generator phasing and synchronisation

i) Station Electrical Reticulation

- All electrical reticulation tasks related to 6.6KV,380VAC,220VDC.
- This will include all routine maintenance as issued by the Komati Power Station SAP system to the Contractor

j) Plant protection settings

The contractor shall:

- Ensure that official settings are correctly applied on the plant.
- Audit application of settings
- Update setting sheets
- Control setting sheets

k) Lighting

- All routine maintenance, testing, fault finding and repairs on all lighting circuits and lights

l) Pro-active plant monitoring and corrective actions on the complete Power station Electrical system including and not limited to:

- Generators
- Transformers
- Motors
- Breakers
- Switchgear and DPI's
- Cabling
- Earthing
- Cable ways and supports

m) MV and LV Cabling and earth bars

- Rectify non-conformances and general maintenance on cables, cable racks and earth bars.
- Repairs, installation, testing, and fault finding of cables

n) New installations

- All new electrical installations or changes to the existing electrical system on Komati electrical systems will be the responsibility of the contractor.

o) Modifications

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- The contractor will be responsible for initiating, investigating, and rendering any assistance to Electrical Engineering for modification purposes.

**p) Engineering support**

- Formal and informal reporting to Electrical Engineering with regards to incidents, investigations, plant deficiencies and plant maintenance feedback through Electrical maintenance department.

**q) Production Equipment**

- The contractor will supply their own Production equipment and all testing equipment (e.g. tools, PPE etc.) to execute the works.
- All testing equipment must be calibrated yearly.
- All production equipment shall be inspected and maintained in good condition by the contractor.
- All Production equipment used on level 1 and 2 plants shall be accepted by the client before being used for compliance.
- All portable electrical equipment must be maintained and inspected periodically as per statutory requirement.

**r) Hazardous Locations**

- Issue of CoC 's I hazardous Locations as per SANS 10108.
- The contractor will be responsible to do electrical maintenance on hazardous locations.
- Two artisans must be qualified to work on Hazardous Plant and electrical equipment.

**s) Renewable Energy Plants**

- All routine Maintenance, Site outage and opportunity maintenance,
- Testing, Fault finding and Repairs on renewable energy plants

### **3.1.2 Plants for control & instrumentation**

The Contract will maintain all instruments covered under the following systems/ areas for control & Instrumentation scope of work

- Water Treatment Plant
- Reservoir dams
- Lake Finn & Lake Stoffel
- Ash Water Return
- Compressor plant
- PA system
- Fire Detection system
- including unit 5,6 and 7 Air Cooled Generator circuits and its auxiliaries control systems.
- Renewable Energy Plants

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a) Siemens SPPA T3000 system (hardware and software), Siemens S7 PLC (Hardware and Software), Logo Siemens PLC (hardware and software) and Allan Bradley PLC (Hardware and Software) Communication networks including the networks outside of the T3000 system, all the instrumentation cable work, all pneumatic actuators including all electrical actuators and junction boxes.

b) Perform administrative and any IT related support functions over the Siemens T3000 Systems IT related hardware including servers.

### **GENERAL REQUIREMENTS REQUIRED FROM THE CONTRACTOR**

The contractor shall:

- Discuss, clarify, and submit for approval of technical documentation for revision
  - Maintain records of abnormal conditions introduced in the plant on temporary basis
  - Maintain all records of commissioning programs, procedures, and results
  - Maintain all records of test results and submit to Service manager his representative
  - Upgrade inadequate documentation and submit for approval
  - All the information and drawings developed or acquired during the service is the property of Eskom and shall be handed over to Eskom at the end of the contract
  - Provide specialised experience and qualifications including T3000/S7 and instrumentation skills required for efficiently addressing any C&I maintenance issues at Komati Power Station Plant at the required plant.
  - Before any maintenance and repair commences on an actuator, the defect at that time must be verified by the Employer's Representative or his delegate.
  - Shall notify an Employer's Representative by phone during a call out.
  - Only proceed with the replacement of spares once the Employer's Representative agrees with the spares and cost in writing.
  - Where torque settings must be adjusted or set in the plant, such adjustments must be witnessed by the Employer. Such settings must be in accordance with the original installation values, and where assistance is required with such settings, the Employer must be contacted to obtain the correct value.
  - Shall have a minimum of three years of work experience at power plant and maintenance background, Installation, and Commission of the following actuators Drehmo, Rotok and Auma.
  - Be responsible to provide a Mechanist as when required basis.
  - be trained and certified to work on the following fields accredited by the OEM
- (i) T3000 competencies or training
- (ii) Fire detection system accreditation (Siemens Sigma system)
- (iii) PA system competencies or training (BOSCH)
- (iv) Allan Bradley, Siemens S7 and Logo PLC and software experience

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I-

- (v) Networking training/References
- (vi) Plant Safety Regulation
- (vii) Construction Regulations
- (viii) ISO certified (9000, 14001 and 18001 specifically)
- (ix) SAP training (PM1 and 2 as a minimum requirement)

**The contractor will be responsible for:**

- Assist in reviewing of Procedures
- Drafting and reviewing of Work instructions plant plan
- Technical and SHEQI investigations into all electrical incidents
- Commissioning of new or refurbished electrical plants.
- Resolving defects on new or refurbished plants
- Job observations to all electrical plants
- SMATS & Plant walks
- Develop QCP's
- Supervisory services to other Contractors during planned and unplanned maintenance for the major electrical plant:
- Or any other lawful instruction

### **3.1.3 Clean up**

The contractor will be always responsible for housekeeping.

### **3.1.4 Drawing**

The employer will provide the contractor with existing and new plant drawings; however the contractor will be responsible for updating drawings of the Komati Power Station Plant and ensure that they are always available to all Komati Power Station employee

### **3.1.5 Planned maintenance**

- Planned and breakdown maintenance will be done according to Plant Maintenance Model implemented on SAP system.
- The contractor will be responsible for capturing of plant history on SAP system.
- The tasks comprise of all official outage packages loaded on SAP for different outages on site, as well as the preventative and corrective maintenance activities loaded onto the SAP system.

### **3.1.6 Deficiencies and Modifications**

- The contractor must inform the employer of deficiencies in their area of Maintenance, responsibility. Such deficiencies will be channelled through the employers and the contractor for registration
- The contractor must inform the employer about any factor known to them that may affect plant health performance

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- Perform plant modifications in line with engineering instructions and recommendations.

### **3.1.7 Standby Services**

- The contractor to ensure the availability of, 24-hour standby service with a response time of 1 hour (one hour).

The contractor shall provide daily feedback on work done on the plant in the previous 24hrs and weekends (Friday afternoon to Monday morning)

### **3.1.8 Maintenance Assessments**

- Assessments shall be done on the 25th working day of every month.
- The assessment on Labour will include the staff complement for that month and the overtime worked on the previous month.
- The assessment on Labour will exclude all leave taken. The contractor must make provision for annual leave for its employees; The employer will pay up to maximum of three days sick leave taken once per month per individual

### **3.1.9 Constraints on how the contractor provides the works**

#### **Security arrangements**

- The contractor must submit their safety file for approval before contract start date.
- The contractor attends annual induction and applies for permits at the security prior to starting date.
- All Contractors personnel will be issued with a temporary access permit, which will contain the following information
  - a) Name
  - b) ID Number
  - c) Company
  - d) Valid date
- In order to assist protective services with using of permits and identification of the personnel on site, the contractor is to supply a list of all personnel that he intends using on site, at least 24 hours prior to entry at the security area. The list, identified with the contractors name should contain the following information.

- a) Employees name
- b) Employees ID number
- c) Employers Service manager signature

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- d) Copy of the first page of the ID book of every employee of the contractor
- The contractor personnel will be required to be always in possession of their permit
  - All Contractors permits must be submitted to protective service when the relevant personnel leave the site after completion of works or upon resignation.
  - The contractor's visitors and all personnel always conform to all the security arrangements in force at that time.
  - No unauthorised vehicles allowed on site. Only contractor's vehicles with displayed contract vehicle permit discs will be allowed on site. Contract vehicle permit applications should be directed to the employer's representative..
  - Lost or damaged permits may be reissued at a cost to be paid to the employer by the contractor.
  - All Eskom Life Saving rules to be always adhered to.
  - Road signs and speed limits to be always adhered to. All contractors vehicle to be subjected to routine search.
  - Vehicles to be parked at designated areas.
  - The minimum specifications for the vehicles that will be allowed on site:
    - (i) Factory fitted anti breaking system (ABS)
    - (ii) Factory fitted passenger and driver air bags
    - (iii) Alarm/immobiliser-factory fitted if not available it shall be fitted by an approved dealer.
    - (iv) Factory fitted power steering
    - (v) Tyres as per manufactures specification for the intended purpose.
    - (vi) Two emergency warning triangles.
    - (vii) Factory fitted air conditioner
    - (viii) Reverse beeper shall be standard on all heavy commercial vehicles, buses and commercial equipment
    - (ix) All hired and Private vehicles used for Eskom business shall comply with ABS and Airbags
  - The contractor to make his own assessment of and allows in his rates for those access problems that may be encountered.
  - Contractor to adhere to the National Key Point act.
  - No recruiting of casual Labour may be done on the Power Station. Including the immediate area outside the Power station security gate

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### **3.1.10 Requirements of the program**

The contractor shall always follow the employer's maintenance and outage program for the tasks

The contractor shall comply to all works management processes

### **3.1.11 Services and other things provided by the Employer**

- The contractor will not be responsible for any spares and material associated with routine and breakdown.
- The Employer may at his own discretion supply any other Plant and Materials as required by the contractor to provide the services.
- The employer provides electrical power from an existing distribution point to the contractor for the purpose of construction. The contractor is responsible for all connections and cable from the supply point. 220VAC supply is available, however continuous supply is not guaranteed.
- Medical station, Fire Protection and rescue services are always available on site.
- A workshop space, work benches, office space for the site manager, desks, chairs, kitchen area ablution facilities in line with OHS act are provided by the employer.
- Two-way radios will be provided by the employer, but if damaged or lost it will be the service providers responsibility to replace or repair it.
- Computers for planning and permits application connected to Eskom LAN with respective software packages and will be provided and maintained by Eskom.
- Fax and Printing machine will be provided and maintained by Eskom
- Telephones will be provided and maintained by Eskom, but External calls will be at the cost-of- service provider.
- The following training will be provided by the employer:
  - (i) IBI training
  - (ii) Plant safety regulations
  - (iii) Operating Systems for High Voltage
  - (iv) Cherry Picker training
  - (v) FFFR training
  - (vi) Evacuation warden
  - (vii) Lifting crane training
  - (viii) SAP PM1 & PM2

### **3.1.12 The employer agrees to undertake**

To inform the contractor should there be any abnormalities within the working environment

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### 3.1.13 Qualifications of the contractors personnel on commencement of the contract

The contractor must comply to the qualification criteria on the below table as a minimum requirement for all the employees in his team

	Position	Minimum Qualifications	Experience	Skills
1	Site Manager	<ul style="list-style-type: none"> <li>N6/National Diploma</li> <li>(Electrical qualification / C&amp;I Qualifications)</li> </ul>	<ul style="list-style-type: none"> <li>5 years in Electrical environment / C&amp;I</li> <li>5years in a Management /Supervisory position</li> </ul>	<ul style="list-style-type: none"> <li>Management/Leadership skills</li> <li>Communication skills</li> <li>Computer skills</li> <li>Negotiation skills</li> </ul>
2	Site supervisor	National diploma Technical	3 years' experience	<ul style="list-style-type: none"> <li>Ability to do fault finding</li> <li>Listening skill</li> <li>Interpret drawings</li> <li>Computer skills</li> </ul>
3	Senior Technician	<ul style="list-style-type: none"> <li>N6/National Diploma</li> <li>Trade Test: Added advantage</li> </ul>	<ul style="list-style-type: none"> <li>5 years in electrical environment</li> <li>Power station Experience</li> </ul>	<ul style="list-style-type: none"> <li>Problem solving and fault finding</li> <li>Communication skills</li> <li>Computer skills</li> <li>Negotiation skills</li> </ul>
4	Technician	<ul style="list-style-type: none"> <li>National diploma /Trade tested</li> </ul>	<ul style="list-style-type: none"> <li>2-year Experience in Electrical and C&amp;I environment</li> </ul>	<ul style="list-style-type: none"> <li>Ability to do fault finding</li> <li>Listening skill</li> <li>Interpret drawings</li> <li>Computer skills</li> </ul>
5.	Artisan	<ul style="list-style-type: none"> <li>N2/N3(Electrical qualification)</li> <li>Trade tested: added advantage</li> </ul>	<ul style="list-style-type: none"> <li>3 years in electrical environment</li> <li>Power station Experience.</li> </ul>	<ul style="list-style-type: none"> <li>Ability to do fault finding</li> <li>Listening skills</li> <li>Interpret drawings</li> <li>Computer skills</li> </ul>
6	Planner	<ul style="list-style-type: none"> <li>N4(Electrical Engineering)</li> <li>Trade test: Added Advantage</li> </ul>	<ul style="list-style-type: none"> <li>5 years in Electrical Environment</li> <li>2 years' experience in (SAP)</li> </ul>	<ul style="list-style-type: none"> <li>SAP knowledge</li> <li>Planning</li> <li>Knowledge of Procurement process</li> <li>Inventory management</li> <li>Computer skills</li> </ul>
7	Installation Electrician	<ul style="list-style-type: none"> <li>N3(Electrical qualification)</li> <li>Installation rules qualification (Wire man's licence)</li> <li>Trade tested</li> </ul>	<ul style="list-style-type: none"> <li>3 years in electrical environment</li> <li>Power station Experience</li> </ul>	<ul style="list-style-type: none"> <li>Ability to do fault finding</li> <li>Listening skill</li> <li>Interpret drawings</li> <li>Computer skills</li> </ul>
8	Assistant Artisan	<ul style="list-style-type: none"> <li>Matric with Mathematics/ Maths Literacy and Physical Science or N2(Electrical qualification)</li> </ul>	<ul style="list-style-type: none"> <li>0 years' Experience</li> </ul>	<ul style="list-style-type: none"> <li>Communicating skills</li> <li>Attitude to learn</li> </ul>

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9	Master Installation Electrician	<ul style="list-style-type: none"> <li>• N3(Electrical qualification) \</li> <li>• Master Installation rules qualification (Wire man's licence)</li> </ul>	<ul style="list-style-type: none"> <li>• 1 year experience working on HAZLOC areas</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to do fault finding</li> <li>• Listening skill</li> <li>• Interpret drawings</li> <li>• Computer skills</li> </ul>
10	T3000 system administrator	<ul style="list-style-type: none"> <li>• B.Sc/B.Tech Degree or National diploma</li> <li>• Trade test and 5 years' experience in T3000 systems or similar systems</li> </ul>	<ul style="list-style-type: none"> <li>• 5 years' experience in T3000 systems or similar systems</li> </ul>	<ul style="list-style-type: none"> <li>• Ability to do fault finding</li> <li>• Listening skill</li> <li>• Interpret drawings</li> <li>• Computer skills</li> </ul>

### **3.1.14 possession, Control of Equipment**

- The Contractor will not assume possession or control of any part of the equipment all of which shall remain exclusively the property of the Employer.

### **3.1.15 Legal Obligation**

- The Contractor will replace parts on an inspection which are discovered to be potentially dangerous to the safety of the public, if spares are unavailable the Contractor shall notify the Employer and ensure that the lift is off and tagged unsafe to use.
- The contractor conforms to all prevailing legal requirements of the Republic of South-Africa, Eskom SOC Limited and Camden Power Station Site legal requirements.

With special reference but not limited to the following: (Note that latest revisions apply before and during contract period.)

- Occupational Health and Safety Act 85 of 1993 as amended and its regulations.
- Compensation for Occupational Injuries and Diseases Act 130 of 1993 as amended.
- CIDB grade level relevant for this type of construction work.
- National Environmental Management Act 107 of 1998 as amended.
- National Environmental Waste Act 59 of 2008 as amended.
- National Water Act 36 of 1998 as amended.
- Eskom procedures and safety requirements set out in Safety, Health and Environmental specifications, Document 004 4830.
- Eskom procedure 32-95 in regards with the management of safety, health and environmental incidents.
- Eskom vehicle safety specification: Doc No: 32-345
- Occupational healthy safety risk assessment procedure. Doc No: 32-520
- Annexure B: Acknowledgement form for Eskom SHE rules and requirement. Template No:240-43921804.
- SHEQ Policy. Doc No: 32-727
- Lifesaving rule, Doc No: 240-62196227

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- n) Employer's policy for waste management on Site, policy. 229/12295.
- o) QM 58 Quality management manual 240-105658000
- p) Business Excellence Quality Management Manual for Refurbishment, Engineering, Manufacturing, and Maintenance Works for Camden Power Station", Document 004/11187
- q) Safety health and Environmental Specification 004-4682
- r) 004 10852 QMS strategic approach
- s) Responsibilities of welding personal: 004/4747
- t) Hot work approval: 004/4746
- u) Welding consumable – Equipment control: 004/4757
- v) Security access control Komati Power Station: 004/5613

Any other act or procedure deemed necessary or applicable if the work includes some toxic and/or hazardous substances during normal and routine maintenance activities stipulated in this document.

In this case the Contractor handles such hazardous substances in accordance with the applicable regulations and procedures and is disposed of by the contractor in accordance with the applicable

### **3.1.16 Quality**

- The Contractor guarantees to utilize the OEM approved parts, components and lubricants.

### **3.1.17 Site Establishment**

- There is no site establishment fee applicable to this Contract.

### **3.1.18 Manpower**

- a) The contractor ensures that the number of personnel provided is sufficient and able to manage all works on-site to the employer's satisfaction as per section 3.1.1 and 3.1.2 above.
- b) The contractor provides qualified and competent personnel to perform preventative maintenance (PM), corrective maintenance (CM), and continuous operating and monitoring of all employers Heating, systems at Komati Power Station and immediate surroundings, Camden outside plants including but not limited to outside plant buildings and offices.
- c) This will include adequate management and supervision, along with suitable qualified technicians, artisans and lower task level employees for work such as filter cleaning.

### **3.1.19 Contractor to Note and Comply with The Following:**

- The Employer reserves the right to have any of the Contractor's personnel removed off site without any compensation to the Contractor in the event of the Contractor's personnel being in contravention with the OHS Act or any of the Employer's rules, regulations and procedures.
- The Employer reserves the right to request disciplinary/corrective action if, and when, required.
- The Contractor will operate under the direction and instructions of Employer.

### **3.1.20 Test Certificates**

- It is an absolute condition of the contract that Test Certificates be supplied with all installed equipment. The cost of such supply is to be for the Contractor's account.

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- The contractor provides all the necessary tools and equipment to provide the service. This includes all hand tools such as spanners, screw drivers, pliers and electrical / electronic and measuring tools / instruments including drilling machines drilling machines flukes and meggers and any additional tools we will need them to have their own welding power pack, plus bottles. Step ladders, fall arrestors etc.
- All tools that need certificates must have valid certificate to comply with safety requirements.

### **3.1.21 Testing**

- To test the equipment's safety components.
- These tests will be carried out according to the manufacturer's requirements to ensure optimum safety standards.

### **3.1.22 Spares**

Perform routine inspection and tests and implementation of corrective actions on all the spares kept at Komati Power Station as per relevant PMs and storage procedures. Resolve any non- conformances and report major non-conformances to Electrical Maintenance and Electrical Engineering

### **3.1.23 Requirements**

The contractor shall always follow the employers' maintenance and outage program for the tasks.

The contractor shall comply to all works management processes.

The contractor shall always adhere to all SHEQ requirements stipulated by the employer.

## **3.2 METRICS**

Any metrics associated with this WI are established and tracked in accordance with requirements of the Komati Power station.

## **3.3 PRE-WORK ACTIVITIES**

- LAR cleared
- Housekeeping done
- Plant in a serviceable state
- Work Order, Pre-job and post-job forms filled and countersigned with the Supervisor.
- Work Package submitted to the Planner
- Work Permit

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### 3.4 POST ACTIVITY

- The records associated with this WI are:
- LAR
- Work Order
- Risk Assessment
- Pre-Job Brief
- Post- Job Brief

**NB:** The file will be kept current and a minimum of 3 previous records including the current one will be kept in record.

### 4. AUTHORIZATION

This document has been seen and accepted by:

Name	Designation
Jurie Pieterse	Maintenance Manager
Valerie Nkgapele	C&I /Electrical Maintenance

### 5. REVISIONS

Date	Rev.	Compiler	Remarks
20 February 2025	0	Mandla Mavuso	First Issue

### 6. DEVELOPMENT TEAM

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

- Mandla Mavuso
- Valerie Nkgapele

### 7. ACKNOWLEDGEMENTS

- Jurie Pieterse
- Valerie Nkgapele
- Mandla Mavuso

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