Part 3: Scope of Work

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C3.1: Employer's service Information

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1. Description of the *service*

1.1. Executive overview

Gariep Power Station has a nominal generating capacity of 360MW which is produced from four 90MW Francis type vertical turbine generator sets. The power station is situated approximately 5km east from the town of Norvalspont in the Eastern Cape.

The GPS Coordinates for the site are as follows:

-30.51076 (Latitude), 25.49397 (Longitude)

This contract makes provision for routine and non-routine maintenance of the fire detection systems at Gariep Power Station to ensure reliable operation of the site fire detection systems. The routine maintenance includes regular inspection, servicing and testing of the identified fire detection systems and non-routine maintenance involves service calls that are defined as maintenance and repair work requirements.

This contract shall constitute a 5-year agreement that makes provision for the supply of labour, equipment and materials, parts, consumables, supervision and transportation necessary to maintain the fire detection systems at Gariep Power Station in a serviceable condition as required by the relevant fire codes, regulations and standards.

This contract is managed by a SAQCC Fire Accredited *Contractor* (SAQCC Fire Maintainer) who submits detailed reports following the inspection, servicing and testing of the fire detection systems.

1.2. Employer's requirements for the *service*

1.2.1. The *Contractor's* scope of supply

The scope of supply includes the following:

a) Make provision for the supply of labour, equipment and materials, parts, supervision and transportation for the completion of the *services*.

b) Repair any standing defects identified during the inspections. Failure to repair defects during the initial inspection, must be repaired during the next scheduled inspection.

c) The services are managed by a SAQCC Fire Accredited *Contractor* and the relevant resources that will perform the services have valid SAQCC Fire registration (Maintainer/Commissioner and Installer). Proof of SAQCC Fire registration for the relevant resources is submitted to the *Service Manager*. They are to be accredited Maintainer/Commissioner and Installer.

d) *The Contractor* ensures that all the resources are accredited with the Fire Detection System OEM certifications for the systems that exist at the Affected Property.

e) The *Contractor* submits detailed reports on the completion of inspections, servicing and tests for the respective components covered during each service period and also for all the service calls that are attended to.

f) The *Contractor* submits certification on completion of inspections, servicing, and tests on all the components of FDS, the FDS as system and interfaces to 3rd party systems as specified in the 240-56737654 Inspection, Testing and Maintenance of Fire Detection Systems Standard.

g) The *Contractor* supplies, third-party test certificates for all materials and consumables used for the corrective, testing, repairs and routine maintenance activities.

h) The *Contractor* supplies Material certificates and quantities used, for items that are supplied and utilised by the *Contractor* in rendering the services, i.e. the certificate and quantity for smoke detector test spray, etc.

i) The *Contractor* is responsible for the supply of PPE (Personal Protective Equipment) for their own personnel working on the Affected Property.

j) The *Contractor* is responsible for the supply of the Equipment used for the repairs, testing and inspections associated with the preventative and the corrective maintenance activities on the fire detection system on the Affected Property.

k) The *Contractor* is responsible for the supply of the Plant and Materials such as the spares for all the components of the fire detection system to enable and support the preventative and the corrective maintenance activities on the Affected Property.

l) In the event that the spares are obsolete, the *Contactor* shall notify the *Service Manager* and propose the equivalent alternative subject to prior approval of the *Employer.* Any such modification will be processed through *Employer's* internal Engineering process. The *Contractor* must comply with the required requirements for approval including providing the relevant documentation required.

m) The *Contractor* submits the safety file prior to the start of the *service* for acceptance by the *Service Manager*.

1.2.2. The *Contractor's* scope of work

The following is a summary of the tasks on the fire detection system:

Task	Equipment/Systems	Frequency
Inspection, fault-finding, servicing, repair and clearing of standing faults, disabled devices and alarms	Fire Detection System	Monthly
Inspection and Servicing	Fire Detection System	3-Monthly
Servicing	Fire Detection System	Yearly
Functional Testing	Fire Detection System	Yearly

All *services* performed on the Affected Property are in accordance with the *Employers* approved procedures and instructions.

The *Service Manager* issues for each *service* a Preventative Maintenance (PM) Work Order for to the *Contractor* to fill in and complete. The *Contractor* attached relevant the *service* reports on completion of the respective *service*.

Any anomalies that are noticed by the *Contractor* during the execution of the *services* are recorded and brought to the *Service Manager's* attention immediately.

To Provide the Work, the *Contractor* executes the following to ensure the highest level of reliability and availability through the following activities:

1.2.2.1. Monthly

a) Performs Inspection, fault-finding, servicing, repair and clearing of standing faults, disabled devices and alarms on Fire Detection System

- The Fire Alarm System for the power station as is detailed below are subjected to monthly inspection, fault-finding and clearing of faults and the clearing of the disabled devices. These include panels for the following areas:
  - Control Room
  - Battery Room
  - Diesel Gen

- Monthly inspection, fault-finding, servicing, repair and clearing of standing faults, disabled devices and alarms comprise of the following activities:
  - Before start of any work, obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, zones and the specific fault detail that are evident on the panels. The status condition before and after work is captured by the *Contractor* and submitted in a detailed report to the *Service Manager*.
  - Perform fault-finding on the panels that have standing faults and alarms to determine the cause of the faults and the alarms.
  - Proceed by clearing any standing faults and alarms.
  - Repair any standing defects identified during the inspections. Failure to repair defects during the initial inspection, must be repaired during the next scheduled inspection.
  - Liaise with the *Service Manager* on the required spares and the action to be taken to clear any faults that need replacement of spare items.
  - The outcome of the monthly inspection, fault-finding, servicing & repair and clearance of any standing faults and alarms on the fire detection panels are captured in a detailed report that is submitted to the *Employer*. This report at a minimum contains the findings of the inspection, referenced the faulty devices with the specific device number, causes of the faults, action taken to clear the faults, servicing and any recommendations that may transpire from the service.

1.2.2.2. 3 (Three) -Monthly

a) Perform Inspection and servicing of the Fire Detection System.

- The Fire Alarm System for the power station as detailed below are subjected to 3-monthly inspection and servicing. These include panels for the following areas:
  - Control Room
  - Battery Room
  - Diesel Gen

- 3-Monthly inspection and servicing comprise of the following activities:
  - Before start of any work, obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, zones and the specific fault detail that are evident on the panels. The status condition before and after work is submitted in a detailed report to the *Employer*.
  - Prepare for testing by reading through the logbook that is kept on the main panel in the control room. Any corrective action that has not yet been taken should be noted and carried out during this service.

- Obtain a printout from the panel of all the faulty devices. Exchange faulty devices with replacement units, set to the same address. Where required, dirty sensors must be cleaned for re-use.
- Obtain a printout of device analogue values. Compare these values to the permitted values for each point. Replace faulty devices or repair wiring.
- Print out a complete system configuration from the panel software. Compare this to the system specification and verify that the system zoning, input-output mapping, and other settings have not changed.
- Check the panel for any disabled devices and investigate the reason. Any faults must be rectified, and any disabled devices must be enabled.
- Alarm Test:
    - Test one sensor or call point in each zone. Activate each point in turn, checking that the sounders operate and that the panel reacts correctly. Also verify that the alarm goes through to National Control via the SCADA to alert the Standby Person of the Fire Alarm. This test and validation must be documented to serve as proof that the off-site alarming is functional and fully operational.
    - For remote panels, verify that the alarm is also generated on the main panel in the control room and that the description is displayed on the SCADA.
- Fault Test:
    - Remove one sensor in the system and check that the panel correctly reports the event.
    - For remote panels, verify that the fault indication is also generated on the main panel and that the description is displayed on the SCADA. Also verify that the fault indication goes through to National Control via the SCADA to alert the Standby Person of the Fault. This test and validation must be documented to serve as proof that the off-site alarming is functional and fully operational
    - Accept the fault, replace the sensor and reset the panel.
- Visually inspect control panels and components for any signs of moisture ingress, damage, deterioration or any abnormalities.
- Check that all printed circuit boards are in a good condition, free of dust and securely mounted on the panel.
- Examine batteries and their connections. Test batteries and determine if replacement is required or if batteries are still in good condition. Check if the battery replacement date will be passed before the next service and if so, replace the battery. The age of the battery should be marked on it with a label. Sealed lead acid batteries should be replaced at least every 2 years.
- Restore the system to normal condition on completion of the service.

1.2.2.3. Yearly

a) Perform yearly servicing of Fire Detection System

- The Fire Alarm System for the power station as detailed below are subjected to yearly servicing. These include panels for the following areas:
    - Control Room
    - Battery Room
    - Diesel Gen

- Yearly servicing comprise of the following activities:

- Before start of any work, obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, zones and the specific fault detail that are evident on the panels. The status condition before and after work is submitted in a detailed report to the *Employer*.
- Prepare for testing by reading through the logbook that is kept on the main panel in the control room. Any corrective action that has not yet been taken should be noted and carried out during this service.
- Obtain a printout from the panel of all the faulty devices. Exchange faulty devices with replacement units, set to the same address. Where required, dirty sensors must be cleaned for re-use.
- Obtain a printout of device analogue values. Compare these values to the permitted values for each point. Replace faulty devices or repair wiring.
- Print out a complete system configuration from the panel software. Compare this to the system specification and verify that the system zoning, input-output mapping, and other settings have not changed.
- Check the panel for any disabled devices and investigate the reason. Any faults must be rectified and any disabled devices must be enabled.
- Alarm Test:
    - Test one sensor or call point in each zone. Activate each point in turn, checking that the sounders operate and that the panel reacts correctly.
    - For remote panels, verify that the alarm is also generated on the main panel next to the control room and that the description is displayed on the SCADA.
- Fault Test:
    - Remove one sensor in the system and check that the panel correctly reports the event.
    - For remote panels, verify that the fault indication is also generated on the main panel in the equipment room and that the description is displayed on the SCADA.
    - Accept the fault, replace the sensor and reset the panel.
- Visually inspect control panels and components for any signs of moisture ingress, damage, deterioration or any abnormalities.
- Check that all printed circuit boards are in a good condition, free of dust and securely mounted on the panel.
- Examine batteries and their connections. Test batteries and determine if replacement is required or if batteries are still in good condition. Check if the battery replacement date will be passed before the next service and if so, replace the battery. The age of the battery should be marked on it with a label. Sealed lead acid batteries should be replaced at least every 2 years.
- Input-output configuration test:
    - Verify by testing that the input-output mapping operates as programmed. Activate an input, such as a sensor, callpoint, or interface unit and verify that the correct outputs operate. Also check that the outputs function correctly.
- Inspect that no building changes have taken place that may affect the operation of the fire alarm system.
- Restore the system to normal condition on completion of the service.

b) The *Contractor* performs yearly functional testing of fire detectors

- The Fire Alarm System for the power station are subjected to yearly functional testing. These include systems installed in the following:
  - Control Room
  - Battery Room
  - Diesel Gen

- Yearly functional testing comprises of the following activities:
  - Annual functional testing of all fire detectors and callpoints covering the power station areas shall be carried out.
  - All fire detectors and call points are covered over the year period and provision is made for the necessary resources to conduct the testing.

1.2.3. Reactive Maintenance

The *Contractor* shall be available to perform inspections, fault-finding repairs, refurbishments, testing and commissioning for unforeseen defects that have occurred on the system and to provide the necessary spares.

The following is a summary of the reactive maintenance tasks and provision of spares on the fire detection system:

1.2.3.1. Fire Detection System Defects

- Scope of work is as follows:
  - Perform fault-finding, clear standing faults on the respective systems for the different plant areas. Install new fire detection devices, program the panel and commission new fire detection devices, provide certification.
  - *Contractor* makes provision for the following:
    - Supply of materials, consumables, tools and equipment to perform the work.
    - Supply of labour
    - Travelling Cost
    - Accommodation
    - Living Out Allowance

1.2.3.2. Disposal of Fire Equipment

- Scope of work is as follows:
  - The *Contractor* disposes of any fire equipment identified by the *Employer* in a safe handling and disposal method and provide a safe disposal certificate for any equipment disposed.
  - The *Contractor* make provision for the following:
    - Supply Labour
    - Transport of materials for disposal purposes.

1.2.3.3. Undefined Spares

- The *Contractor* makes provision for the supply of spares not defined because of unplanned breakdowns, degradation of equipment and scrapped components.
- Spares include, but is not limited to the following:
  - Cabling

- Conduit
- Batteries

1.2.3.4. Call Outs / Defects

- The *Contractor* makes provision for call outs to attend to breakdowns and any faults that occurs on the fire detection system.
- The *Contractor* makes provision for the following:
  - Supply of labour
  - Travelling Cost
  - Accommodation
  - Living Out Allowance

1.3. Interpretation and terminology

The following abbreviations are used in this Service Information:

Abbreviation	Meaning given to the abbreviation
OBL	Outside battery limits
OEM	Original Equipment Manufacturer
SAQCC	South African Qualification and Certification Committee
SCADA	Supervisory Control and Data Acquisition
PPE	Personal Protective Equipment
ESKOM	Electricity Supply Commission
km	kilometre
MW	Megawatt
HV	High Voltage
PM	Preventative Maintenance
FDS	Fire Detection System
PC	Personal Computer
GPS	Global Positioning System

2. Management strategy and start up.

2.1. The *Contractor*'s plan for the *service*

The *Contractor* prepares his plan on MS project format computerised planning software and utilises it for all planning, progress monitoring and reporting. The plan shows all the information required by Clause 21.2 of the TSC3.

In addition, the plan shows:

- The plan indicates the start date, Completion Date and duration of each activity.
- The plan revision number

2.2. Management meetings

Regular meetings of a general nature may be convened as follows:

Title and purpose	**Approximate time & interval**	**Location**	**Attendance by:**
Kick-off Meeting	Once off	Gariep Power Station/MS Teams	*Employer, Service Manager, Contractor, and Others as required*
Overall contract progress and feedback	Monthly	Gariep Power Station/MS Teams	*Employer, Service Manager, Contractor* and *Others* as required
Risk Reduction meeting	Adhoc	Gariep Power Station/MS Teams	*Employer, Service Manager, Contractor, and Others as required*
At the risk reduction meetings items as prescribed in TSC Clause 16.2 and 16.3 are discussed. The Risk Register is updated by Service Manager and distributed within five days of the meeting.			
Meetings of a specialist nature	Adhoc	Gariep Power Station/MS Teams	*Employer, Service Manager, Contractor, and Others as required*

Meetings of a specialist nature may be convened as specified elsewhere in this Service Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the *service*. Records of these meetings shall be submitted to the *Service 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.

2.3. *Contractor*'s management, supervision and key people

A detailed service organogram of the Company's Branch, indicating specifically Operating officers, financial officers, Communication / liaison personnel and technical staff intended for this contract are required as a tender returnable and are to be kept updated during the entire duration of the contract. Changes in the structure must be communicated to the *Service Manager* immediately of it coming into effect.

The Organogram shall include current contact details and emergency response (24-hour) information.

2.4. Documentation control

All documentation requires a unique, sequential number and all deviations contained therein clearly described. Contractual communications will be in the form of properly compiled letters or forms attached to e-mails and not as a message in the e-mail itself.

The Service Manager or the Delegated Person shall in all instances be the point of communication (addressee) and no direct communication between persons involved in the contract shall be allowed. Such communication shall be disregarded.

2.4.1. General

Each instruction, certificate, submission, proposal, record, acceptance, notification and reply is communicated in a form which can be read, copied and recorded and in the language of the Contract, within the period for reply or any other period agreed between the parties prior to its due date. Any such communiqué must bear the signature of the author; emails therefore do not conform except when used as a transmittal medium.

2.4.2. Minimum requirements

All documents shall be in simple and clear English; and always reference to applicable NEC TSC3 clause under (or as a result of) which it is communicated.

2.4.3. Use of standard forms

The *Service Manager* and the *Contractor* will use the standard NEC TSC3.

2.4.4. Communucation

All Communication is addressed to the *Service Manager* as applicable to the TSC. All communication makes reference to:

- The Contract Number that is issued by the *Employer (*normally a 46000…..*)*
- The Contract title.
- Any previous reference relating to the specific communique
- The Specific TSC clause under which the communication is issued;
- Whether a reply is required and
- A unique letter reference number.

The unique reference number to be used for written correspondence between the *Service Manager* and *Contractor* and vice versa is as follows: From the *Service Manager* to the *Contractor:* 46000 .. ... E/C 0xxx; and from the *Contractor* to the *Service Manager* 46000 C/E 0xxx referring to the Contract number and the next sequential letter (channel) number

2.5. Invoicing and payment

All Invoices submitted for payment shall make reference to the pricing schedule's alpha-numeric order and description (may be shortened).
Within one week of receiving a payment certificate from the *Service Manager* in terms of core clause 51.1, the *Contractor* provides the *Service Manager* with a tax invoice showing the amount due for payment equal to that stated in the *Service Manager*'s payment certificate.

a) The *Services Manager* to be copied in on all electronic invoices emailed.
b) Failure to submit the invoice to the correct address could result in delays in payment.

c) The *Contractor*'s Tax Invoices comply with the requirements as stated in clause Z7 of the Contract Data
d) Invoices are submitted electronically to:
   - Local Eskom Invoices - invoiceseskomlocal@eskom.co.za**.**
e) Details required when submitting invoices and additional data:
   - The subject line on your email should only contain your vendor number
   - Each invoice in PDF should be named with your invoice number only
   - All electronic invoices are be sent in PDF format only
   - Attach the proof of delivery to your invoice
   - Where applicable, supporting documents are be attached to the scanned PDF invoice as one attachment
   - A copy of the signed assessment certificate
   - Any other appropriate documents,
   - Other requirements:
   - Ensure compliance with the tax requirements for submitting invoices electronically
   - Each PDF should contain one credit note, one debit note or one credit note only. More than one invoice can be submitted per email
   - Any CPA applicable are be invoiced separately, so that if there are issues on the CPA, the rest of the invoices can be paid while the CPA issues are resolved
f) Include the following information on the Invoice:
   - Name and address of the *Contractor* and the *Service Manager*;
   - The contract number and title;
   - *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;
   - *Contractor's* company registration number if applicable
   - *Contractor's* banking details
   - Name and address of recipient
   - Tax invoice number and date of issue,
   - Description of goods/service provided,
   - Quantity or volume of goods/services
   - Period time for which the Tax Invoice is being rendered,
   - Relevant Task Order Number (commencing with a 45 prefix),
   - Relevant line item number,
   - Statement whether value added tax is included or excluded.

2.6. Contract change management

The use of Standard forms is encouraged and is obtainable from the *Service Manager* for instances like compensation events Contract change management is managed in accordance with clause 6 of the core clauses in TSC3

2.7. Records of Defined Cost to be kept by the *Contractor*

In order to substantiate the *Defined Cost* of compensation events, the *Employer* requires that the *Contractor* to keep the following,

- Record of Labour charges
- Record of material charges

- Record of Equipment Charges

These records need to be available on an excel spreadsheet in case of a compensation event is agreed on.

2.8. Insurance provided by the *Employer*

As per clause Z12.
Queries regarding insurance claims and/or procedures can be addressed with the *Service Manager*.

2.9. Training workshops and technology transfer

- The *Contractor makes* provision for Maintenance and Operator Awareness Training to be conducted on a Quarterly basis.
- Make provision of 16 hours of training per Quarter.
- Training is performed at the *Employer's* premises.
- The *Contractor* compiles and submit the associated training material/guidelines for maintenance diagnostic and operator alarm response training based on the various systems installed on site.
- The *Contractor* makes provision for the following:
    - Supply of training material for maintenance and operating disciplines.
    - Supply of course content, power point presentations, etc.
    - Supply of labour
    - Travelling Cost
    - Accommodation
    - Living Out Allowance

2.10. Design and supply of Equipment

The scope of the work is described in this specification. No alteration to- or on equipment is allowed without the written consent of the *Service Manager*.

2.11. Things provided at the end of the *service period* for the *Employer*'s use

2.11.1. Equipment

Special tools for the installed equipment.

2.11.2. Information and other things

The *Contractor* hands over the file with service records, warranties and material safety data sheets for all spares.

2.12. Management of work done by Task Order

a) All work is managed through Task Order.
b) The process for placing a Task Order is:

i. A Task Order Request is issued by the *Service Manager* to the *Contractor*
ii. The *Contractor* prepares and submits a Task Order quote to the *Service Manager.*
iii. The *Service Manager* assesses the Task Order quote for acceptability and conduct clarification with the *Contractor* if required

iv. The *Service Manager* accepts the Task Order quote by issuing the Task Order and PO to the *Contractor*

3. Health and safety, the environment and quality assurance

1.1. Health and safety risk management

- The *Contractor* shall comply with the health and safety requirements contained in OHS Specification and the approved safety file. *Employer* reserves the right to review the OHS Specification to address the Operational risks and the contractor shall comply with the latest SHE Specification as amended at no cost.
- The OHSACT 37(2) agreement must be signed by *Employer* and *Contractor*/service provider's representatives.
- The *Contractor* OHS professional must conducts internal audits at planned intervals to monitor compliance to the contractual health and safety requirements.
- The *Contract* Custodian must conduct inspections at planned intervals to monitor compliance to the contractual health and safety and legal requirements.
- The *Contractor* may be selected during internal and/or external Eskom Power Station audits to verify compliance to legal and contractual OHS requirements. The Contract Custodian will communicate this at relevant time periods, and the contractor shall avail themselves for this audit.
- Maintain Health and Safety file and compliance to the health and safety plan, *Employer's* OHS requirements and applicable legislation as amended.
- Always maintain good housekeeping where the task is being carried out and/or within the area of responsibility.
- Implement and monitor near miss reporting strategy / program (reporting of near misses).
- Develop and comply to Behavioral Safety Observation (BSO) and Planned Job Observation programs (PJO).
- Maintain Zero Fatalities for the duration of the contract.
- All incidents must be reported immediately or before the end of the shift during which the incident occurred.
- All incident investigations shall be completed within 30 days of the occurrence of an incident.
- Incident investigation recommendations shall be closed within the recommended time frame recorded in the Incident investigation report.
- Close audit findings as per the Eskom procedure or audit report recommended time frames.
- Close Non-conformance as per the recommended time frames.

Below are minimum Safety requirements to be adhered to by contractors/service providers, to gain access to Gariep Power Station

- Valid Medical fitness certificate
- Clearance from SAPS or accredited service provider linked to SAPS AFIS system not older than thirty (30) days
- Identification document (RSA ID or equivalent)
- National Drivers Licence (applicable to drivers)
- Adherence to the Eskom Life-saving rules 3 Buckle up and 4, Be Sober and all other Eskom Life saving rules
- Applicable risk based Personal Protective Equipment
- Valid letter of good standing (COIDA or equivalent). Access to site to perform work will be denied should the Letter of good standing be expired.

- Induction will only be conducted after all documents have been submitted and accepted by Eskom

1.2. Environmental constraints and management

The *Contractor*'s rates tendered shall cover all costs that will be incurred to comply with all requirements of the environmental requirements. Special attention is drawn inter alia to the following aspects:

- The *Contractor*'s attention is drawn to the fact that the Power Station is situated in a highly sensitive environmental area and that any incident that may result in an environmental impact must be brought to the attention of the *Service Manager* as soon as it is possible. The site is managed in accordance with an ISO 14001 certified management system, and the contractor will be expected to manage all processes in line with environmentally sound principles.
- The *Contractor*, in and about the execution of the service, complies with all applicable national, provincial and Municipal environmental legislation and by laws.
- Comply with all environmental legislation of South Africa, including but not limited to:
  National Environmental Management Act 107 of 1998
  National Environmental Management Waste Act 59 of 2008
  National Water Act 36 of 1998
  Eskom Waste Standard latest revision
  Waste Management: Norms and standards: Act 59 of 2008 latest revision
- The *Contractor* shall comply to all National and Local legislation requirements as well as Eskom procedures and policy. *Employer's* goal is to ensure zero harm to the environment, and to ensure that any possible impact is mitigated or managed. The Duty of Care and implementation of best practice is critical during operations, and full communication on environmental issues is required at all times.
- Site/laydown demarcation: The *Contractor* shall demarcate his camp site, be restricted to that specific area and take full responsibility to restore the area to its original condition before the contract commenced.
- Waste management: The *Contractor* shall dispose of all waste off-site at a licensed waste disposal facility and submit proof to the *Employer*. The method statement on waste management will need to include the identification of possible waste streams, temporary storage and disposal options for each waste type, and contingency plans in the case of any environmental incident. A Safety Data Sheet must be supplied for all chemical or hazardous / potentially hazardous material brought onto site."
- Sanitation: The *Contractor* shall provide an appropriate enclosed temporary sanitation facility
- Dust control: The *Contractor* shall be responsible to apply effective dust control measures.
- Fire prevention: It shall be the responsibility of the *Contractor* to prevent fires at all times during the contract.
- The *Contractor* shall take full responsibility for protecting the natural environment and eliminating or minimising the negative impacts of construction on the environment during construction. Nothing specified herein shall relieve the *Contractor* of any obligations or responsibilities in this regard.
- The *Contractor* shall implement an Environmental Policy and plan, in line with relevant various compliance obligations, statutory regulations, including all national, provincial and municipal legislation/regulations.
- Method statements which include environmental protection shall be submitted to the *Service Manager* within 14 days after signing the contract.

- The *Contractor* shall conduct his activities so as to cause the least possible disturbance and adverse impact to the existing amenities, whether natural or man-made, in accordance with all the currently applicable statuary requirements. Special care shall be taken by the *Contractor* to prevent irreversible damage to the environment.
- The *Contractor* shall take adequate steps to educate all members of his workforce as well as his supervisory staff on the relevant environmental laws and regulations. The *Contractor* shall supplement these steps by prominently displayed notices and signs in strategic locations to remind personnel of environmental concerns.

Method Statements

The *Contractor* shall submit, before 14 calendar days of commencement of any activity, a Method Statement containing details of all site layouts and environmental protection measures proposed to the *Service Manager* for review and acceptance.

These shall include but not limited to:

i. Site establishment layout;
ii. Pollution prevention measures;
iii. Waste including water management plan;
iv. Incident and emergency management

In addition, the *Contractor* shall provide detailed method statements on how he intends to carry out the *works*; this shall apply to all, and any part of the *works* as provided in the *conditions of contract.*

Temporary Services and Facilities

- All fuel storage tanks shall be bunded to 110 % of the total storage capacity. Fuel dispensing areas and workshop areas shall be provided with concrete hard standing draining to oil separators. This will also apply to other areas with pollution potential.
- Cleaning, maintenance and repairs of vehicles shall be done off site.

Protection of Rivers, Streams and Watercourses

- All rivers, streams and watercourses shall be protected from direct or indirect spills of pollutants such as garbage, sewage, cement, oils, fuels, chemicals, aggregate tailings, silt and wastewater or organic material resulting from the *Contractor's* activities. In the event of a spill prompt action shall be taken to clear polluted or affected areas.
- The *Contractor* shall not work within river flood lines, streams, water courses and wetlands without the written acceptance of the *Service Manager* as required for the execution of the work.

Refuse and Waste Control

- The management of solid waste on Site shall be strictly controlled and monitored. Only licenced waste disposal landfill sites shall be used.
- The quantities of waste generated on Site shall be minimised; Labelled recycling bins shall be used and waste separated where possible. In addition, a recycled-material collection schedule shall be established and the bins shall be collected regularly;
- Eating areas for the construction staff shall be designated and supplied with waste bins.
- No on-site burying or dumping or unauthorised burning of any waste materials, vegetation, litter, or refuse shall occur;
- Bins provided must have lids and will be sufficient to store the solid waste produced on a daily basis;
- The bins should be emptied at least once a day;
- Waste from bins may be temporarily stored on Site in a central waste area that is weatherproof and scavenger-proof and which the *Service Manager* has accepted;
- All solid waste shall be disposed of off site, at a licenced landfill site. The *Contractor* shall supply the *Service Manager* with a certificate of disposal; and Waste shall be separated into domestic waste, building/construction rubble, scrap metal, oil and grease and hazardous waste and dealt with in the following manner:

Protection of Flora

- The removal, damage and disturbance of indigenous flora are prohibited.

Protection of the Fauna

- The *Contractor* shall protect fauna living within the Site and shall ensure that hunting, snaring, poisoning, shooting, nest raiding, or egg-collecting and disturbance does not occur.
- The *Contractor* is to ensure that his employees are instructed not to feed wild animals.
- The use of pesticides is prohibited unless accepted by the *Service Manager*.
- No domestic pets or livestock are permitted on Site.

1.3. Quality assurance requirements

- The quality requirements are as per ISO 9001:2015 and as per Eskom document 240-105658000,SUPPLIER CONTRACT QUALITY REQUIREMENTS SPECIFICATION.
- The *Contractor's* company quality documents are subject for verification and acceptance by Eskom.
- The supplier shall submit objective evidence of a developed QMS that complies with ISO 9001 (or the latest applicable revision). The following documented information (approved/ signed copies) shall be submitted:

✓ Quality management system manual or a (documented information) that have defines and describes the QMS and its scope

✓ Quality Policy, aligned with the supplier's strategic direction (documented information)

✓ Quality Objectives (documented information)

✓ Control of documented information (both maintain and retain documented information)

✓ Internal audit procedure (documented information)

✓ Control of nonconforming outputs (documented information)

✓ Nonconformity and Corrective action procedure (documented information)

- The QMS should drive all the supplier's business management processes to ensure that all of Eskom's requirements are fully met on a consistent basis. Supplier Quality Management: Specification Unique Identifier: 240-105658000
- The supplier shall submit a draft contract quality plan that is specific to the scope of work as described in the tender documents. The plan must address the minimum requirements as per ISO 10005.
- Where applicable; the supplier shall submit an example inspection and test plan (ITP) or quality control plan (QCP).
- The supplier shall submit documented information for Control of Externally Provided Processes, Products and Services.
- The supplier shall submit a copy of documented information for roles, responsibilities and authorities in relation to the QMS. Examples of relevant documented information are; organization charts, job descriptions, work instructions, duty statements, manuals, procedures
- The supplier shall complete and sign Form A under Category 3 (Enquiry/Contract/Quality Requirements for Supplier Quality Management Specification 240-105658000/ QM 58 and ISO 9001).

2. Procurement

2.1. People

2.1.1. Minimum requirements of people employed

Requirements as set out in section 1.2.1 (c & d) shall be adhered to. In addition, training conducted for key personnel in terms of the Skills Development Act of 1999 and that assurance that all training conducted has been done through, or has been governed by, the SETA.

A curriculum Vitae of each person shall be submitted at the time of tender and when personnel changes occur. This shall be noted in the compulsory organogram and updated.

Staff shall be classified as per SANS 10147 (D4) et al.

2.1.2. BBBEE and preferencing scheme

With confirmation of its B-BBEE Status by submitting an updated Verification Certificate by no later than 30 (thirty) days.
Contractor to ensures the *Service Manager* has an updated valid certified copy of BBBEE certificate or sworn affidavit during contract period. Failure to do so, could result in Eskom Vendor Management Department blocking vendor details on Eskom vendor management system which affects payment processing of invoices.

Supplier Development and Localisation.
Refer to attached document – SDL&L Strategy Template for Bidders

2.2. Subcontracting

2.2.1. Preferred subcontractors

No Nominated Subcontractors.

2.2.2. Limitations on subcontracting

The *Contractor* shall not sub-contract more than 20% of the work. This will not apply to any documentational work at/during tender stage. No supervision must be subcontracted.

2.2.3. Attendance on subcontractors

State entry and attendance requirements, adherence and constraints are the same as for the *Contractor*.

2.3. Plant and Materials

2.3.1. Specifications

None.

2.3.2. Correction of defects

The *Contractor* is required to correct all the defects identified to the satisfaction of the *Employer*.

2.3.3. *Contractor*'s procurement of Plant and Materials

The *Contractor* provides the *Employer's representative* with a quotation with the agreed markup percentage for all materials, parts and spares required to perform repairs. The *Contractor* attaches the Vendor's invoice or proof of purchase together with the *Contractor's* quotation as supporting evidence. The warrantees from suppliers are to be in favour of the *Employer* and not just the *Contractor*.

2.3.4. Tests and inspections before delivery

Where applicable, material, dimensional, material safety data sheets (MSDS) and pressure test certificates are required for parts and equipment supplied or for any refurbishments/reconditioning conducted by the *Contractor*.

The *Service Manager* may request to inspect Plant and Materials together with the *Contractor* on arrival before the use on the Affected Property and from time to time during execution. The *Contractor* keeps records of such inspections and the records be available for *Service Manager* on request. Findings from these inspections will be tracked.

2.3.5. Plant & Materials provided "free issue" by the *Employer*

None.

2.3.6. Cataloguing requirements by the *Contractor*

None.

3. Working on the Affected Property

3.1. *Employer*'s site entry and security control, permits, and site regulations

All persons intending to perform work and/or attend meetings during this contract period comply with the following:

The *Contractor* adheres to all Life Saving Rules as specified. The *Employer* does not permit any passengers to be transported at the back of any Truck, light domestic vehicle or enclosed light commercial vehicle. Each person shall sign the Affected Property entrance register and this information shall also be collated by the *Contractor* for use during the scheduled meetings. All *Contractor* personnel are in possession of Security clearance. Verification records are submitted as part of the safety file together with ID copies. The *Employer* reserves the right to refuse entry to all persons with criminal records.

- Original Identity document (ID) or passport is presented to Security on arrival
- No weapons may be taken on site
- No drugs allowed on site
- No explosives allowed on site
- No firearms and ammunition allowed on site
- No photographs may be taken whilst on site
- All persons entering the Employer s premises undergo a breathalyser test. Any persons testing positive is not allowed entry. The *Employer* has a zero tolerance towards alcohol.
- Tool registers is verified on arrival by security personnel.
- Only reverse parking is allowed on site.

General access to the station is controlled and it is mandatory that the *Contractor* adheres to all security regulation in force during the period of the contract.

The *Contractor* is required to submit proof of verification record(s) (Security clearance) from SAPS or accredited supplier linked to SAPS AFIS system not older than thirty (30) days before access to site is granted.

Contractor is required to submit the SAPS Clearance Certificates obtained for all his employees along with copies of their Identity Documents to the site Security Manager for verification. Only individuals with clear criminal records will be considered.

3.2. People restrictions, hours of work, conduct and records

ESKOM does not permit any passengers to be transported at the back of any Truck, light domestic vehicle or enclosed light commercial vehicle.

All Cardinal rules as specified shall be adhered to. The premises may be entered from 08:00 to 16:15 Mon-Thu, excluding public Holidays and from 08:00 to12:00 on Fridays. Each person shall sign the site entrance Register and this information shall also be collated by the *Contractor* for use during the scheduled meetings.

Parking is allowed in the demarcated areas only and should it be required to drive on Affected Property, then please adhere to the following;

Maximum speed is 20km/h

Obey all road signs

Damage to ESKOM's plant/ property will be for the *Contractor's* account.

3.3. Health and safety facilities on the Affected Property

All *Contractor* employees and intended sub-contractors must attend a compulsory induction meeting at the start of the Contract period.

The required Health & Safety files, complete with all of the requirements thereto, must be submitted, completed and approved before the start of the contract period.

3.4. Environmental controls, fauna & flora

The *Contractor's* attention is drawn to the fact that the *Employer's* Power Stations are situated in highly sensitive areas with respect to the environment.

The *Contractor* acquaints himself with all statutory and local environment regulations and adheres to these without exception.

The *Contractor* complies with the Hazardous Chemical Regulations, GNR. 1179 of 25 August 1995 as amended by GNR.930 of 25 June 2003 and GNR.683 of June 2008 when using any hazardous chemicals, as well as complying with the requirements of the National Environmental Management Act of 1988.

The *Contractor* will be required to ensure that all *Services* are carried out as per the ISO 14001 standard and Eskom's Environmental Policy. The following environmental requirements are complied with at all times:

- Zero liquid effluent discharge.

- No chemicals will be dumped into the station drains or on the premises.
- No oil or waste will be dumped in an unauthorised area or unlicensed waste site.
- Asbestos will be handled and stored according to Act 15 of 1973 (hazardous substances Act).
- No materials or waste will be burnt on site. Hazardous substances shall be handled and stored according to the hazardous substances Act no 15 of 1973. No effluent shall be discharged into the public streams.
- Construction Safety, Health, and Environmental Management Rev. 0 32-136

Waste Disposal:

All waste introduced to and/or produced on the *Employer's* premises by the *Contractor* for this contract, must be handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act, 1994 Ref: ISBN0621-16296-5.

Hazardous substances

If product is classified as a hazardous substance, safety brochures must accompany delivery. In accordance with the Occupational Health and Safety Act (OHSA), Act 85 of 1993 section 10 and 11. If any hazard is identified by the *Contractor*, he must immediately inform the *Employer.*

3.5. Cooperating with and obtaining acceptance of Others

The *Contractor* co-operates with and does not delay, impede or otherwise impair the service of Others.

3.6. Records of *Contractor*'s Equipment

The *Contractor* shall, before entering the site for the first time, provide a comprehensive list of all equipment and tools intended for use during the contract period, to the *Service Manager.* Access will be postponed until such time as the inventory is approved and available at each site visit.

Material intended for use shall be approved beforehand as stipulated. The exact amounts consumed during a particular service visit must be declared and reconciled in order to reflect on the quarterly report.

3.7. Equipment provided by the *Employer*

None.

3.8. Site services and facilities

3.8.1. Provided by the *Employer*

The *Service Manager* shall make available to the *Contractor*, or their representatives, the following facilities during the contract period:

Toilets and ablution facilities.
Eating amenities available within the Powerhouse.

First-aid available in the Powerhouse building.

The *Contractor* shall provide everything else necessary for providing the Service.

3.8.2. Provided by the *Contractor*

The *Contractor* makes provision for all required site services and facilities.

3.9. Control of noise, dust, water and waste

The control of noise, dust, water and waste shall be as expressed in the environmental requirements for site.

3.10. Hook ups to existing works

Should any hook-ups be required for specific work, please consult with the *Service Manager*.

3.11. Tests and inspections

3.11.1. Description of tests and inspections

Inspections will be carried out by the Health & Safety Officer, the Environmental officer and the *Service Manager* periodically. This information will be shared during the quarterly meetings.

Inspections carried out by the *Contractor*, specifically those intended for the prevention of harbouring areas, must be recorded and recommendations communicated with the *Service Manager* as soon as it becomes apparent.

3.11.2. Materials facilities and samples for tests and inspections

None.

4. List of drawings

4.1. 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.

Drawing number	Revision	Title
Not Applicable.		

5. Specifications

Title	Date or revision	Tick if publicly available
General Specifications:		
240-105658000 – Supplier Contract Quality Requirements Specification		
ISO 9001:2008 – Quality Management Systems		
OHASA (1993) – Occupational Health and Safety Act of South Africa, Act 85 of 1993		√
32-136 – Contractor Health and Safety Requirements		
240-150642762 – Generation Plant Safety Regulations		
240-62196227 – Eskom Life-saving Rules Directive 23-421		
Technical specifications:		
SANS 10139 – Fire Detection and Alarm Systems for Buildings – System Design, Installation and Servicing		√
SANS 10400-T – The Application of the National Building Regulations Part T – Fire Protection		√
240-56737448 – Fire Detection & Life Safety Design Standard		

ANNEXURE 1 – EQUIPMENT INSPECTION SHEET

Equipment Inspection Sheet

Company Name:	**:**	
Equipment Inspected:	**:**	
Serial Number:	**:**	
Reference Number	**:**	
KKS Number	**:**	

Date Inspected	Item Description	Comment

ANNEXURE 2 – INITIAL PANEL STATUS INDICATION SHEET (RECORDING OF STANDING FAULTS)

Initial Panel Status Indication Sheet (Recording of Standing Faults)

Company Name:	**:**	
Panel Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Faulty Device(s) Reference Number	Zone Reference Number	Device/Area Description	Fault Description

ANNEXURE 3 – INITIAL PANEL STATUS INDICATION SHEET (RECORDING OF ALARMS)

Initial Panel Status Indication Sheet (Recording of Alarms)

Company Name:	**:**	
Panel Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Alarm Device(s) Reference Number	Zone Reference Number	Device/Area Description	Alarm Description

ANNEXURE 4 – INITIAL PANEL STATUS INDICATION SHEET (RECORDING OF DISABLED DEVICES)

Initial Panel Status Indication Sheet (Recording of Disabled Devices)

Company Name:	**:**	
Panel Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Disabled Device(s) Reference Number	Zone Reference Number	Device/Area Description

ANNEXURE 5 – PANEL STATUS INDICATION SHEET AFTER SERVICING (RECORDING OF STANDING FAULTS)

Panel Status Indication Sheet after Servicing
(Recording of Standing Faults)

Company Name:	**:**	
Panel Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Faulty Device(s) Reference Number	Zone Reference Number	Device/Area Description	Fault Description	Root Cause	Corrective Action

ANNEXURE 6 – PANEL STATUS INDICATION SHEET AFTER SERVICING (RECORDING OF ALARMS)

Panel Status Indication Sheet after Servicing
(Recording of Alarms)

Company Name:	**:**	
Panel Inspected:	**:**	
Serial Number:	**:**	
Reference Number	**:**	
KKS Number	**:**	

Date Inspected	Alarm Device(s) Reference Number	Zone Reference Number	Device/Area Description	Alarm Description	Root Cause	Corrective Action

ANNEXURE 7 – PANEL STATUS INDICATION SHEET AFTER SERVICING (RECORDING OF DISABLED DEVICES)

Panel Status Indication Sheet after Servicing
(Recording of Disabled Devices)

Company Name:	**:**	
Panel Inspected:	:	
Serial Number:	:	
Reference Number	:	
KKS Number	:	

Date Inspected	Disabled Device(s) Reference Number	Zone Reference Number	Device/Area Description	Fault Description	Root Cause	Corrective Action

ANNEXURE 8 – MONTHLY INSPECTION, SERVICE & FAULT-FINDING SHEET FOR FIRE ALARM SYSTEMS

Inspection, Servicing & Testing Sheet			
Company Name	:		**Gariep Power Station- Fire Detection Systems Inspection, Servicing & Fault-finding**
Competent Person	:		**Fire Alarm Systems**
SAQCC Reg. No.	:		**Monthly Inspection, Service & Fault-finding**
Qualification	:		
Level	:		

Item	Task Description	Completed	Notes
1	Obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, disabled devices, zones and the specific fault detail that are evident on the panels. Record on relevant indication sheets and also download a print out from the panel of the faulty devices.		
2	Perform fault-finding on the panels that have standing faults and alarms to determine the cause of the faults and the alarms		
3	Proceed by clearing any standing faults and alarms.		
4	The outcome of the monthly inspection, fault-finding, servicing & repair and clearance of any standing faults and alarms are captured in a detailed report that are submitted to the *Employer*.		

	This report at a minimum contains the findings of the inspection, referenced the faulty devices with the specific device number, causes of the faults, action taken to clear the faults, servicing and any recommendations that may transpire from the service. Record on relevant indication sheets of the faulty and disabled devices.		

Deficiencies corrected during the Monthly Inspection & Servicing.	
Deficiencies remaining after the Monthly Inspection & Servicing.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	:	
Date	:	
Signature	:	

ANNEXURE 9 – 3-MONTHLY INSPECTION & SERVICE SHEET FOR FIRE ALARM SYSTEMS

Inspection, Servicing & Testing Sheet

Company Name	:	**Gariep Power Station- Fire Detection Systems Inspection & Servicing**
Competent Person	:	**Fire Alarm Systems**
SAQCC Reg. No.	:	**3-Monthly Inspection & Service**
Qualification	:	
Level	:	

Item	Task Description	Completed	Notes
1	Obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, disabled devices, zones and the specific fault detail that are evident on the panels. Record on relevant indication sheets and download a printout from the panel of the faulty devices.		
2	Prepare for testing by reading through the logbook that is kept on the main panel in the control room. Any corrective action that has not yet been taken should be noted and carried out during this service.		
3	Obtain a printout from the panel of all the faulty devices. Exchange faulty devices with replacement units, set to the same address. Where required, dirty sensors must be cleaned for re-use.		
4	Obtain a printout of device analogue values. Compare these values to the permitted values for each point. Replace faulty devices or repair wiring.		

5	Print out a complete system configuration from the panel software. Compare this to the system specification and verify that the system zoning, input-output mapping, and other settings have not changed.		
6	Check the panel for any disabled devices and investigate the reason. Any faults must be rectified and any disabled devices must be enabled.		
7	Alarm Test: • Test one sensor or call point in each zone. Activate each point in turn, checking that the sounders operate and that the panel reacts correctly. Note: Precautionary measures must be taken to prevent discharge of foam/water spray systems during alarm testing of the transformer panels as the systems will activate upon alarm testing of the panels. • For remote panels, verify that the alarm is also generated on the main panel in the equipment room and that the description is displayed on the SCADA.		
8	Fault Test: • Remove one sensor in the system and check that the panel correctly reports the event. • For remote panels, verify that the fault indication is also generated on the main panel in the equipment room and that the description is displayed on the SCADA. • Accept the fault, replace the sensor and reset the panel.		
9	Visually inspect control panels and components for any signs of moisture ingress, damage, deterioration or any abnormalities.		

10	Check that all printed circuit boards are in a good condition, free of dust and securely mounted on the panel.		
11	Examine batteries and their connections. Test batteries and determine if replacement is required or if batteries are still in good condition. Check if the battery replacement date will be passed before the next service and if so, replace the battery. The age of the battery should be marked on it with a label. Sealed lead acid batteries should be replaced at least every 2 years.		
12	Record on relevant indication sheets the faulty and disabled devices.		
13	Restore the system to normal condition on completion of the service.		

Deficiencies corrected during the Quarterly Inspection & Servicing.	
Deficiencies remaining after the Quarterly Inspection & Servicing.	
Specify any corrective action/follow- up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

	Work Completed by:	Approved by:
Name	:	
Date	:	
Signature	:	

ANNEXURE 10 – YEARLY SERVICE SHEET FOR FIRE ALARM SYSTEMS

Inspection, Servicing & Testing Sheet

Company Name	:	**Gariep Power Station- Fire Detection Systems Servicing**
Competent Person	:	**Fire Alarm Systems**
SAQCC Reg. No.	:	**Yearly Service**
Qualification	:	
Level	:	

Item	Task Description	Completed	Notes
1	Obtain the status condition of all the panels, record the status condition of all panels, record faulty device reference numbers, disabled devices, zones and the specific fault detail that are evident on the panels. Record on relevant indication sheets and download a printout from the panel of the faulty devices.		
2	Prepare for testing by reading through the logbook that is kept on the main panel in the control room. Any corrective action that has not yet been taken should be noted and carried out during this service.		
3	Obtain a printout from the panel of all the faulty devices. Exchange faulty devices with replacement units, set to the same address. Where required, dirty sensors must be cleaned for re-use.		
4	Obtain a printout of device analogue values. Compare these values to the permitted values for each point. Replace faulty devices or repair wiring.		

5	Print out a complete system configuration from the panel software. Compare this to the system specification and verify that the system zoning, input- output mapping, and other settings have not changed.		
6	Check the panel for any disabled devices and investigate the reason. Any faults must be rectified and any disabled devices must be enabled.		
7	Alarm Test: • Test one sensor or call point in each zone. Activate each point in turn, checking that the sounders operate and that the panel reacts correctly. Note: Precautionary measures must be taken to prevent discharge of foam/water spray systems during alarm testing of the transformer panels as the systems will activate upon alarm testing of the panels. • For remote panels, verify that the alarm is also generated on the main panel in the equipment room and that the description is displayed on the SCADA.		
8	Fault Test: • Remove one sensor in the system and check that the panel correctly reports the event. • For remote panels, verify that the fault indication is also generated on the main panel in the equipment room and that the description is displayed on the SCADA. • Accept the fault, replace the sensor and reset the panel.		
9	Visually inspect control panels and components for any signs of moisture ingress, damage, deterioration or any abnormalities		

10	Check that all printed circuit boards are in a good condition, free of dust and securely mounted on the panel.		
11	Examine batteries and their connections. Test batteries and determine if replacement is required or if batteries are still in good condition. Check if the battery replacement date will be passed before the next service and if so, replace the battery. The age of the battery should be marked on it with a label. Sealed lead acid batteries should be replaced at least every 2 years.		
12	Input-output configuration test: • Verify by testing that the input-output mapping operates as programmed. Activate an input, such as a sensor, callpoint, or interface unit and verify that the correct outputs operate. Also check that the outputs function correctly.		
13	Inspect that no building changes have taken place that may affect the operation of the fire alarm system.		
14	Record on relevant indication sheets the faulty and disabled devices.		
15	Restore the system to normal condition on completion of the service.		
Deficiencies corrected during the Annual Servicing.			
Deficiencies remaining after the Annual Servicing.			
Specify any corrective action/follow-up .			
Cross-referenced documentation. (Reports, procedures, etc.)			
Close-out:			

	Work Completed by:	Approved by:
Name	:	
Date	:	
Signature	:	

ANNEXURE 11– YEARLY FUNTIONAL TESTING SHEET FOR FIRE ALARM SYSTEMS

Inspection, Servicing & Testing Sheet

Company Name :	**Gariep Power Station- Fire Detection Systems Functional Testing**
Competent Person :	**Fire Detectors**
SAQCC Reg. No. :	**Yearly Functional Testing**
Qualification :	
Level :	

Item	Task Description	Completed	Notes
1	Yearly functional testing of all fire detectors and callpoints shall be carried out.		
2	All fire detectors and call points shall all be covered over the year period and provision must be made for the necessary resources to conduct the testing.		

Deficiencies corrected during the Annual Functional Testing.	
Deficiencies remaining after the Annual Functional Testing.	
Specify any corrective action/follow-up.	
Cross-referenced documentation. (Reports, procedures, etc.)	

Close-out:

Work Completed by: Approved by:

Name

Date:

Signature: _____