

	Scope of Work	Tutuka
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1. Introduction

This document outlines the technical requirements and scope of work needed to place a contract to perform maintenance on the GCD building located at Tutuka Power Station.

The scope of works include but not limited to visual and detail inspections, maintenance repairs, and maintenance reports including scope of work, bill of quantities, method statements and the supply and installation of materials.

The *Contractor* will be responsible for the preventative and corrective maintenance of the GCD building at Tutuka Power Station. The *Contractor* shall maintain civil & building works to ensure that:

-

- There is a decreased need for constant capital investment;
- Existing facilities are used their full life expectancy;
- The infrastructure performs better, effective and reliable and has a longer life due to a greater emphasis on preventive maintenance;
- Compliance to Construction Regulations of 2014 and Eskom's procedures and standard.

2. Supporting Clauses

2.1 Scope

2.1.1 Purpose

The purpose of this document is to perform preventative and corrective civil and structural maintenance, visual and detail inspections, maintenance repairs, and maintenance reports including scope of work, bill of quantities, method statements and the supply and installation of materials.

2.1.2 Applicability

This document shall apply to Tutuka Power Station only.

2.1.3 Effective date

The effective date will be from final signature.

2.2 Normative/Informative References

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

2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] 240-99527377 Inspection Manual for Civil Works at Eskom's Power Stations

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[3] 2014 Construction Regulation

2.2.2 Informative

- [4] 240-50317699: Manage Technical Queries Procedure
 [5] 240-53113685: Design Review Procedure
 [6] 240-53114186: Document and Records Management
 [7] 240-53665024: Engineering Quality Manual.
 [8] QM-58: Supplier Contract Quality Requirements Specification
 [9] SANS 1200: Standardised specification for civil engineering construction
 [10] 39-60: Contract quality requirements

2.3 Definitions

N/A

2.4 Abbreviations

Abbreviation	Explanation
ECM	Engineering Change Management
ECSA	Engineering Council of South Africa
ISO	International Standards Organisation
NEC	New Engineering Contract
PM	Planned Maintenance
QIM	Quality Issue Management
QM	Quality Management
SANS	South African National Standards

2.5 Roles and Responsibilities

2.5.1 Tutuka Civil Engineering

- Compiles scope of work
- Conducts technical evaluation, as per the issued technical evaluation strategy
- Tracks the progress of the SOW, witnesses and inspects activities during construction of the liner as per the approved QCP.

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2.5.2 Tutuka Environmental

- Ensures that environmental legislation and standards are adhered to and environmental practices are implemented at all times during provision of the Civil Maintenance Services by Contractor

2.5.3 Tutuka Quality

- Ensures that quality legislation and standards are adhered to, and quality practices are implemented at all times during execution of the works.

2.5.4 Tutuka Safety

- Ensures safe practice at all times when work is executed

2.5.5 Contractor

- As per OHS Act (85/1993), and 2014 Construction Regulations
- Executes the works

Appoints a Professional Civil Technician registered with ECSA, to manage and supervise the works

2.6 Process for Monitoring

The tender committee will evaluate the contract.

2.7 Related/Supporting Documents

As per section 2.2

3. General Constraints

- a) A site tender briefing session/scope clarification meeting to be conducted and attended by the Tenderer/Contractor or a technical representative. A representative from Civil Engineering, Civil Maintenance and others will meet prospective tenderers/contractors for a scope clarification and site briefing meeting.
- b) The Contractor shall appoint an experienced Professional Civil Technician registered with ECSA supervise the work, and give technical assurance at all times on behalf of the Contractor. If not available, the delegate/stand-in must be appointed in writing by the Contractor to ensure continuity of the works
- c) All technical queries to be directed to Civil Engineering and Civil Maintenance
- d) Tenderer/Contractor to provide returnable schedules in accordance with the technical evaluation strategy issued by the Employer.
- e) During execution of the scope of work, Contractor to share the site with other contractor/s conducting operation and maintenance tasks

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- f) Contractor is responsible to provide their own measures to secure machinery, equipment, materials, and resources on site

4. Scope of work

4.1. Civil Plant Inspections (Planned & Corrective Maintenance)

The Contractor will be required to develop the maintenance and inspection report in line with Eskom Standards and Procedure and Construction Regulations 2014. The Contractor will perform planned maintenance inspections with the objective to identify preventative and corrective actions.

After each visual or detailed inspection, Contractor to issue inspection report detailing the condition of the structure, required repair and/or replacement works, and bill of quantities for Employer to approve. Contractor to execute approved maintenance repair and/or replacement works issued by the Employer.

4.1.1. Preventative and Corrective Maintenance

The *Contractor* will be responsible for the preventative and corrective maintenance of the GCD building at Tutuka Power station.

The *Contractor* must be able to supply all tools, equipment, material, platforms and access equipment to execute the preventative and corrective scope of work for all civil, structures, geotechnical, hydraulics, roads drainage and sewerage works.

4.2. Civil Maintenance Repairs and/or Replacement

The *Contractor* will be responsible for, but not limited to, the execution of the following activities:

- **Installation of paving**
 - Prepare and Install paving as similar pattern to existing Around the building (100m x 1.5m).
 - Supply of 640mm thick paver blocks.

- **Kitchen**
 - Supply and install 3 off 5litres hydroboil including electrical and plumbing work.
 - Supply and install similar to existing water filtration system 3 off and including all plumbing works.
 - Geyser at Procurement kitchen (similar to existing) including electrical and plumbing works.

- **Male and Female Bathrooms**
 - Repair internal toilet doors hinges and locking mechanism

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- Supply and install taps with single mix (hot and cold) on Male and female toilets including all plumbing works from the geyser to taps (similar piping material for male and female bathrooms)
 - Supply and install extraction fans – (Indoor air quality) male and female bathrooms including all electrical works and COC.
 - Supply and install aluminium door louvres in the bathroom entrance doors (Male and 300mm x 300mm).
- **Labels and signage**
- Smoking area to be clearly marked (Supply a signage).
 - Parking reservation labels (400mmx 200m with titles as per list).
 - E3 - SABS Arrow Down & Running Man Photoluminescent Sign (Glow In The Dark) - 190x380mm.
 - Fire door signage.
 - Emergency escape doors signages.
- **Road marking and painting**
- Supply and apply of non-reflectorised paint including Pre-marking and setting out.
- **Smoking area**
- Supply and deliver a 10 ft (3m x 2.4m) shipping container with lockable door and a openable window for ventilation.

4.3. Inspection report writing

All reports described in this section must be retained in both electronic and hardcopy format. Listed below are the minimum requirements for all inspection reporting:

- i. The date of the inspection, name and affiliation of the Engineer/Technologist.
- ii. The names of plant personnel present during the inspection.
- iii. What assets were inspected, and what portions of those assets were inspected. It must not be assumed that where a report records nothing there were no problems.
- iv. The condition category for the elements of the plant assets inspected, using the categorisation described in 240-99527377 (Inspection Manual for Civil Works at Eskom's Power Stations).
- v. Recommendations regarding repairs and/or replacement must be provided.
- vi. Clearly labelled photographs identifying typical members and showing their condition.
- vii. A written report must contain a summary of all remedial actions recommended, and these must be prioritised according to the priorities defined in Table 9-1 in the Inspection Manual for Civil Works at Eskom's Power Stations

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- viii. A brief written report of all safety critical findings must be submitted within one week after the date of inspection. Safety critical items include only those items that are considered by the Engineer to constitute an immediate hazard to the safety of personnel in the plant.

4.3.1. Description of Works

The *Contractor* is responsible to supply skills to do the following work:

a. Plumbing maintenance

- Laying and joining of Steel, PVC and HDPE pipes
- Cleaning and installing of gutters, roof sheeting
- All Plumbing maintenance

b. Carpentry maintenance

- Repairs to fire doors and furniture
- Hanging of doors, fitting of ceilings and new installations
- Repairs / replacement of installations such as ceilings, skirtings, doors, door locks etc.
- Roof repairs and replacements.
- Repairs of existing and installation of new dry walls as and when required.
- Repairs of existing office furnishings and installation of new workstations, cupboards and related notice boards/ white boards as required.
- All carpentry maintenance

c. Bricklayer

- Laying of floor ceramic tile, wall tiles and Marley tiles
- Building of brick walls including building with face brick
- All Bricklaying maintenance

d. Painting

- Painting with normal paints and epoxy products
- All non-plant related painting of Offices and Utility Buildings
- All Road Marking and Signage.
- All Painting work

e. Masonry duties

- Repairs and building modifications as required to buildings, paving, wall and floor tiles etc.

f. Welding Duties

- Repairs and replacement of burglar bars, security gates etc.
- Repairs / replacement of existing road signs, notice boards and the installation of new signs etc.
- Repairs and replacement of metal hand rails, balustrades etc.
- Repairs to security gates, booms and palisade fencing.
- Repairs to locking mechanisms.

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g. Technician To do following inspections

- Inspections to be done as per the *Employer's* inspection manual for Civil Works. Inspection report and estimated repair cost to be submitted for Employer to approve before commencing with the repairs.
- After inspections have been done, repairs must be done on the faults found
- The Technician must have the correct experience and qualification to do the required inspections

4.4. Required Machinery, Equipment, and Materials

The Contractor must have all the necessary equipment for the visual and detailed inspections.

The *Contractor* is responsible to supply the following machinery, equipment and materials to enable the *Contractor* to carry out the work as per contract:

4.5. General Requirements for Contractor to adhere to

- a. Contractor to be provide all machinery, equipment, and materials required to execute the scope of work
- b. Team to consist of *Contractor* working supervisor and required skilled persons needed to execute work
- c. The *Contractor* is responsible to supply transport for his staff on site as per the *Employer's* requirement.
- d. The *Contractor* is responsible for submission of health and safety file prior to commencing of work
- e. The *Contractor* is responsible for maintaining of the *Contractor's* health and safety file and will be audited on a frequent basis
- f. The *Contractor* is responsible for the induction of their employees
- g. All work undertaken must be done in accordance with workflow service
- h. The *Contractor* must provide proof of experience and certified qualifications and medical certifications of all personnel.

5. Quality Control Assurance

The Contractor's Civil Technician will when and as required be able to perform quality control and support Employer during execution of Civil Maintenance works.

The Contractor shall develop and implement a system for quality verification records, including site investigation Plans, Record Books (Data Books) as specified in the Tutuka Quality Specifications.

Routine checks and inspections to be conducted as per Contractor's Quality Control Plan (QCP), illustrating defined intervention assessment points. The Contractor submits QCP for the Employer to review and approve before commencement of any works. The QCP include witness, hold, test, and inspection points.

Before commencement of the works, the Contractor compiles and present detailed technical proposal outlining execution strategy, plan/programme and control measures associated with the required works. Contractor to present this during the kick-off meeting for Employer to approve before commencement of any works.

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6. Configuration Management

6.1. Documentation

All documents supplied by the *Contractor* shall be subject to Eskom's approval. The language of all documentation shall be in English. The *Contractor* shall include the *Employer's* drawing number in the drawing title block. This requirement only applies to drawings developed by the *Contractor* and his Subcontractors. Drawing numbers will be assigned by the *Employer* as drawings are developed.

All Documentation and Data books shall be completed, delivered and approved when the Contractor applies for final inspection at repair completion and handed over to the Employer at takeover application

All project documents must be submitted to the delegated Employer's Representative with transmittal note according to Project / Plant Specific Technical Documents and Records Management Work Instruction [23]. In order to portray a consistent image it is important that all documents used within the project follow the same standards of layout, style and formatting as described in the Work Instruction. The *Contractor* is required to submit documents as electronic and hard copies and both copies must be delivered to the *Eskom Representative* with a transmittal note.

The detailed technical report in conjunction with the drawings shall contain sufficient information to enable a complete re-analysis of the operation and maintenance conditions, and modification/repair/replacement/refurbishment of Civil infrastructures.

6.2. DOCUMENT RETURNABLES

The Contractor shall produce and submit a project plan, project quality plan, organogram, detailed method statement and testing procedure, QCP, safety file for approval prior to the commencement of work. The Contractor to conduct induction and medicals prior to commencement of work.

These documents should contain the following information, which is not limited to:-

- a) **Programme:** The programme to specify the different activities and associated timelines applicable for the execution of the required works aligning with each task order issued by the Employer
- b) **Quality Plan:** Highlight the activity or standard which shall be used to ensure quality materials and workmanship for every task order issued by the Employer
- c) **Organogram:** Indication of the core staff who will be involved in the execution of the required works for every task order issued by the Employer. Names and qualifications, together with ID and CV's to be included
- d) **Method Statement:** Detailed method statement specifying skills, labour, materials, tools, machinery, equipment and testing procedures applicable for the execution of the required works, aligning with every task order issued by the Employer
- e) **QCP:** Must indicate relevant hold, surveillance and witness points for the Contractor and Employer which align with every task order issued by the Employer

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Contractor to provide the above documents for Employer to approve before commencement of any works, aligning with task order issued by the Employer

7. Acceptance

This document has been seen and accepted by:

Name	Designation
Clarissa Lesanne Wilson	Civil Engineer
Sipho Thango	Senior Civil Engineer
Nompumelelo Dlamini	Civil Engineering Manager
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Lindani Masondo	Technical Supports Manager
Thokozani Maseko	Safety Manager
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8. Revisions

Date	Rev.	Compiler	Remarks
11 August 2022	0.1	CL Wilson	Draft issued for review
27 January 2023	1.0	CL Wilson	Final Document

9. Development Team

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

- Clarissa Chetty
- Tertius Botha

10. Acknowledgements

N/A

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