	Scope of work	Matimba Power Station
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Title: **Provision of Lifting Equipment's maintenance services at Matimba Power Station**

Document Identifier: **SOW/230/001**

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Area of Applicability: **Matimba Power Station**

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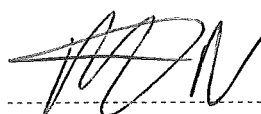
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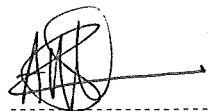
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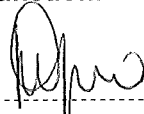
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Provision of Lifting Equipment's maintenance services

Unique Identifier: **SOW/230/001**

Revision: **1**

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1 Introduction

General Cranes, permanent hoisting and lifting devices play an important role in the operation and maintenance of the Matimba Power station. The operating function might use it to lift and move gas cylinders and other containers with material necessary for plant operation such as mill ball loading. The maintenance functions use the cranes and lifting devices during execution of the maintenance activities at the plant. In all instances the lifting of containers and equipment possess a safety risk which is directly related to the condition and performance of the lifting device. Failure of the lifting device can result in serious plant and equipment damage and can seriously injure and even kill personnel working in the vicinity where the lifting is being done. The inherent risk in the use of cranes and lifting devices has resulted in legislation governing the inspection, testing and maintenance of the equipment used for lifting of other equipment and material. Most of the maintenance specified in the maintenance strategy and plan is statutory in nature. This means that the work to be done is pre-defined in applicable standards, which are based on detail analysis of previous equipment failures and pre-empting plant failure using evaluation techniques such as reliability centred maintenance (RCM)

1.1 Plant description

The system is comprised of the 115 cranes, hoists and lifting equipment at Matimba power station. The lifting equipment is integral to the functioning of the station. Without the equipment several maintenance activities cannot be performed. It is essential that all the lifting equipment are maintained to meet statutory regulations and Matimba standards.

➤ Below is the list of systems with functional locations of the equipment's:

• Air-conditioning Workshop crane	00SMD 50AE100
• Ammonia Plant crane	00LND 01AE001
• Ash Conditioner's cranes	(01/02/03)SMB 00AE001
• Bucket Elevator Conveyor cranes	(10-60)SMB 01AE001
• Chlorine Handling crane	00SME 40AE002
• Cooling Tower (North & South) cranes	(01/02)SMA 10AE002
• Coal Circular cranes	(10-60)ECE 10AE100
• Coal Extendable Conveyor cranes	(10-60)ECE 20AE100
• Drive Head T1A & B crane	00ECA00 AE100
• Force Draft (A & B) cranes	(10-60)SMF(10/20)AE(100/200)
• Inclined Conveyor cranes	(01/02/03)UEF 20AE(100/200)
• Induced Draught Fan cranes	00SMF12 AE100
• Locomotive Shed cranes	00SMD30 AE001
• Low Pressure Services crane	00SME10AE001
• Mill cranes	(10-60)SMF (10/20)AE(100/200)
• Mechanical Maintenance Workshop crane	00SMD 10AE001
• Plater Shop crane	00SMD 10AE001
• Precipitator cranes	(10-60)SMF (20/10)AE100
• Primary Air Fan cranes	(10-60)SMF (21/11) AE100
• Over – Silo cranes	00ECA 00AE100
• Semi Portable North & South cranes	(01/02)SMT20
• Stacker Reclaimer crane	00EAD 01AE001

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- Turbine Hall crane

00SMT 10AE100

➤ In addition to the lifting equipment there are various roller doors that need to be maintained:

- Fire station (East) folding door LHS 10-00USG10AB100
- Fire station (East) folding door RHS 10-00USG10AB101
- Fire station (West) folding door LHS 10-00USG10AB200
- Fire station (West) folding door (RHS) 10-00USG10AB201
- Stores folding shutter door (East side) 10-00UST01AB005
- MMD workshop/stores folding shutter door (East) 10-00UST01AB006
- Stores folding shutter door (West side) 10-00UST01AB007
- Roller shutter door (West side) workshop 10-01UYR01AB001
- Stores folding shutter door (North side) 10-00UST01AB008
- Roller shutter door (South) 10-00UYN10AB101
- Roller shutter door (South side) 10-01UGD01AB001

2 Supporting clauses

2.1 Scope

2.1.1 Purpose

The core of this document is to provide an intensive scope of work for execution of lifting equipment's repairs, inspection and services and safety compliance of all the lifting equipment's in Matimba. Lifting equipment's maintenance must be executed as per the maintenance specification and or requirements stipulated in the strategy in order to keep the utility operating optimally and ensuring the availability and reliability of all the equipment's in the Station.

2.1.2 Applicability

This document shall apply throughout Matimba Power Station Overhead cranes, Permanent Hoists and Lifting Devices. The document is to affect all crane operators, and maintenance users of the equipment. In addition to this the document will affect engineering and ultimately production.

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] Occupational Health and Safety Act, 85 of 1993

[2] Supplier Contract Quality Requirements Specification

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[3] GGR 0992 - Plant Safety Regulations

[4] PA/244/001- Waste oil, grease and contaminated materials and soils management to minimise environmental impact

2.2.2 Informative

[1] SANS 50081 – 1: Safety rules for the construction and installation of cranes.

[2] SANS 1599 – 2: Power – driven mobile cranes.

[3] SANS 4309: Cranes – Wire ropes: Care, maintenance, installation, examination and discard.

[4] SANS 4310: Cranes – Test code and procedures

[5] SANS 12478 – 1: Cranes – Maintenance manual.

[6] SANS 12480 – 1 : Cranes – Safe use

2.3 Definitions

Definition	Description
Employer	Eskom or Eskom Matimba power station representative appointed in writing.
Contractor	Service provider contracted for supply specific service to Eskom Matimba Power Station.
Maintenance	A combination of all technical, administrative, and managerial actions during the life cycle of an item intended to retain it in, or restore it to, a condition in which it can perform the required function.
Maintenance Strategy	The type of maintenance selected for specific plant and equipment, such as time or condition-based maintenance, corrective or preventative maintenance.
Maintenance Plan	A plan that details the maintenance that needs to be done on a specific plant item or component and the frequency and quality requirements for that maintenance.
Maintenance Schedule	The timing of the Maintenance Plan information stipulating when in the calendar year, work needs to be done.
Preventive Maintenance	Planned time or schedule-based maintenance carried out with the explicit objective of preventing functional failures and is directed towards maintaining the physical condition of the plant or equipment. It includes scheduled overhauls and scheduled replacement of worn out parts or failure prone components.

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Corrective Maintenance	The process of restoring plant and equipment which have failed or deteriorated to a state which renders it unable to meet the acceptance criteria required for its particular application.
Inspection	Activities, which by means of examination, observation or measurement, determine the conformance of material, parts, components etc, to predetermined specifications and quality requirements.
In-service Inspection	All inspection and testing conducted on plant and equipment at regular intervals and prescribed by regulatory and statutory codes or other types of specification throughout its service life.
Lifting Machinery Entity	A legal entity approved and registered by the chief inspector in terms of regulation 19 of the Driven Machinery Regulations.
Lifting Machinery Inspector	A person who is employed by a Lifting Machinery Entity and who is registered by the Engineering Council of South Africa in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000)
Responsible Person	A person, who has been authorised to be responsible for ensuring that the work on the apparatus covered by a work permit can be, carried out with safety and within the terms of ORHVS.

2.4 Abbreviations

Abbreviation	Description
DEL	Department of Employment and Labour
KPI	Key performance indicators
GO	General Overhaul
SOW	Scope of work
PPE	Personal protective equipment
QCP	Quality control plan/ inspection and test plan
QMP	Quality management programme
SABS	South African Bureau of Standards
SAP	System, application, products
SHE	Safety, health and environment

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RTF	Run to Failure
RP	Responsible Person
SANS	South African National Standards
LMI	Lifting Machinery Inspector
LME	Lifting Machinery Entity
ECSA	Engineering Council of South Africa
WTP	Water treatment plant
NDT	Non-destructive testing
SD & L	Skills, development & Localization
NCR	Non-conformance report

2.5 Roles and Responsibilities

2.5.1 Contract Manager

- a) Co-ordinating and manage contract budget and expenses.
- b) Ensure that the contractor operates within the budget.
- c) Holds monthly meetings with the contractor.
- d) Communicate technical interface between Eskom and the contractor.
- e) Ensure that all work performed complies with the OHS act regulation and quality requirements.
- f) Review, verify, and approve receipt of services/deliverables from the contractor.
- g) Manage and maintain all contract records and correspondence between the employer and the contractor.
- h) Ensure that the contractor complies with the conditions of contract.
- i) Resolving any deviations and breaches in relation to the agreed conditions of the contract
- j) Contracts manager must keep the original copy to file for history purposes.

2.5.2 Contract Supervisor

- a) Assign works order as per maintenance schedule issued by the planner at pre-determined interval.
- b) Obtain technical reports from the contractor supervisor, evaluate the information where necessary include identified defects.
- c) Assist contract manager with contract management administration.

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- d) Assess any work completed and align it to the scope of work and task order.

2.5.3 Contractor

- a) All other maintenance activities to be performed in accordance with the relevant procedure and specification where applicable.
- b) The Contractor to provide technical support and advice on constant failure trends of the equipment.
- c) Provide consistent and cost-effective maintenance service.
- d) Ensure that the application and implementation of appropriate maintenance tools and innovative techniques.
- e) Develop Key performance Indicator (KPI), objectives and targets which support, and which is in line with the Employer's objectives.
- f) To provide adequate resources capabilities to carry out maintenance and inspection work and that support the Employer's objectives in line with contractual obligations.
- g) The contractor to adhere to all Employer's health and safety requirements and procedures on site.
- h) The contractor to provide relevant documentation for managing equipment's. This will include all records keeping of all activities, plant conditions and quality control and safety documentation.
- i) The contractor shall comply with all relevant SABS standards, OHS Act 1993 and with the Employer's standards as specified from time to time.
- j) The integrity of the plant is maintained within the parameters specified by the Employer.
- k) The contractor shall record and report to the Employer the following:
 - All incidents and equipment failure to be reported to the Employer within the same day.
 - The contractor must provide all required reports for overall system performance.
 - The contractor submits to the Employer, a fully substantiated written damage report specifying the nature, scope and cost of rectification work required including a programme for execution.

2.6 Process for Monitoring

Item	KPI	Targets
1	No. of PM's due	0
2	No. of P1-P3 Overdue	0
3	Manpower Utilisation	>63%
4	No. of rework	0
6	Safety finding	< 1/M
7	Assessment >25 th of Month	0
8	No. of NCR's	< 1/Month

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9	SD & L	100%
10	PSR authorisation	100%

Maintenance process monitoring shall be done by means of the following:

2.6.1 Process Control Manuals (PCM)

- [1]. 32 – 1303 Process Control Manual (PCM) for Execute Maintenance Work.
- [2]. 32 – 1304 Process Control Manual (PCM) for Manage Work.

2.6.2 On – Line Maintenance

- [1]. Preventive Maintenance Compliance.
- [2]. Notification Response Compliance.
- [3]. Statutory Order Violations.
- [4]. Emergent Work.

2.7 Related/Supporting Documents

- Monthly KPI's

2.8 Site Visit Requirements

- a) Site induction must be done before commencing with any work.
- b) Contractors must bring own personal protective equipment (PPE).
- c) All communication must be in a form of writing.

3 Document content

3.1 Scope

Maintenance of above include 1 yearly statutory inspection, 6 monthly inspection and other periodic checks as per maintenance strategy or as when required and in accordance with the minimum designated frequency in accordance with the "Occupational Health and Safety Act 85 of 1993", and Eskom maintenance standards in order to ensure safe operation and reliability of the system.

The scope of work covers maintenance of the following equipment's:

- Lifting equipment's (Overhead Cranes: 1.5 ton to 100 ton)
- Crawl beams (200kg – 132 ton)
- Beam Crawlers
- Lifting tackles

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- Hand powered lifting
- Mobile Cranes (18 to 60ton)
- Forklifts (4 to 12 ton)
- Roller doors/Electrically driven doors
- Procurement of non-stock materials

Below is the breakdown structure of lifting machines components that are to be maintained:

3.1.1 Crab (Bogey) Assembly

Crab Structure

3.1.2 Main Hoist

Drum

3.1.3 Rope

- Guide
- Drum Anchorage

3.1.4 Hook

Hook Block

3.1.5 Rope Sheaves

3.1.6 Drive Train

- Motor
- Gearbox
- Electromagnetic Brake

3.1.7 Auxiliary Hoist

- Drum
- Rope
- Guide
- Drum Anchorage
- Hook
- Rope Sheaves
- Auxiliary Hoist,

3.1.8 Drive Train

- Motor
- Gearbox
- Electromagnetic Brake

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3.1.9 Crab

- Geared wheels
- Follower Wheels
- End Stops (Buffers)
- Chain Hoist
- Safety guards over rotating equipment
- Cabin Structure
- Control Panel
- Door
- Windows
- Power Supply/Switchgear
- Lighting

3.1.10 Bridge

Structure - general

3.1.11 Girders

- Main Travel Assembly
- Rocker pin assembly

3.1.12 Bridge Main Travel Assembly

- Motor
- Gearbox
- Electromagnetic brake
- Geared (Drive) wheels.
- Drive Shaft
- Ungearred (Trailing) wheel assemblies.
- Rocker pin assembly

3.1.13 Ungearred wheel assemblies

- Mechanical link assembly
- Floodlight assembly

3.1.14 Cross Bridge Power Feed

- C-rail/Diamond rail trolleys with rollers
- C-rail/Diamond rail
- Power cables
- Bridge Buffers
- Walkway and hand railing
- Control Panels
- Resistors
- Motion Limiters
- Load limiters
- Speed limiters (100-ton crane only)

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- Overload alarm Annunciator
- Brush gear

3.1.15 Bridge

Safety guards over rotating equipment

3.1.16 Pendant Control Panel

- C-rail/Diamond rail
- C-rail/Diamond rail trolleys with rollers
- Pendant winch with slip ring drum
- Orange rotating warning light
- Lever Arm Operated Brakes
- Electromagnetic brakes

3.1.17 Gantry structure

- Crane Tracks
- Gantry Horizontal Copper Leads (Bus bars)
- Gantry down Shop leads to switchgear (ID Fan & Coal Silo cranes)
- Crawl beams and Cantilevers
- H-Beam/I-Beam
- Bolting
- Safe Working load signage

3.1.18 Roller doors (Electrically driven doors)

- Electrical motor.
- Power supply.
- Guide rails.
- Bearings.
- Door slats and panels.
- Toothed gear.
- Tension springs.
- Weather seals.
- Support structure.

3.2 Technical Scope of Work

The Services provided by the contractor under this contract includes provision of 24 hours maintenance service of Lifting equipment's, Crawl beams, Lifting tackles, Hand powered lifting, Mobile Cranes, Forklifts and Roller doors/Electrically driven doors.

The Scope of work is not limited to normal, preventative (PM) and Corrective (CM) maintenance and emergency work. Furthermore, the service required include the following activities:

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3.2.1 Lifting equipment's: Inspection and testing

- Visual inspection on nylon slings, chain slings, chain locks, lever hoist, crawls, shackles, eye bolts, and plate grabs, tirfor, forklifts, and mobile jacks.
- Load testing of steel slings, chain slings, chain blocks, lever hoists, crawls, tirfor, forklifts, and mobile jacks.
- Inspection/thorough examination of lifting tackles to determine safe use.
- Crack testing of shackles, eye bolts, plate grabs, and crawls
- Repair and replacements of chain locks, lever hoists, and crawls where necessary.
- Removal and installation of chain blocks and crawls in the plants.
- Provision of service reports and test certificate after completion of work orders.

3.2.2 Cranes, Hoist and Crawl Beams: Inspection, repair, and testing

- Thorough examination of hand powered lifting devices to determine safe use.
- Thorough examination of forklifts and mobile cranes to determine safe Lifting.
- Crawl runway beam visual inspections.
- Load testing of hand powered lifting devices
- Load testing of lifting tackles (only as and when required).
- Load testing of fork lifts and mobile cranes.
- Load testing of crawl/runway beams.
- All Runway/crawl beams with no overhead crane should be regarded as unsafe and should be Inspected / examined and load tested and certified safe for use before use.
- Repair and replacement of lifting equipment where necessary.
- Removal and installation of chain blocks and crawls in the plant.
- Issue complete service and inspection/examination reports and load test certificates complete with measurements to be issued after completion of work orders. The inspection report should have a quotation attached for repair of the lifting equipment for all defects identified.
- Inspect, examine and service all cranes according to applicable SANS standards.
- Inspect hooks for any deformation Perform complete NDT inspection of hook to determine both interna1 and external defects and compare with previous records
- Monitor rope condition, to predict the Safe-End-of- Service Life of wire rope to applicable standards.
- Load test of all overhead cranes.
- Check for any dimensional changes to connections indicating deterioration of connection especially after load tasting of crane.

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- The load test to be done with concrete weights as far as possible (If not possible, water at the station can be used, but the contractor is responsible for the filling of the water bags and provision of water bags needed for load testing).
- Issue Complete Service and inspection/examination reports and load test certificates complete with measurements to be issued after completion of work orders. The inspection report should have a quotation attached for repair of the crane for all defects identified.
- Contractor to develop QCP on all critical tasks and submit to the Employer for support before execution of the tasks.
- Unexpected breakdowns or sudden failures to be attended as per routine maintenance procedure.

3.2.3 Electrical Servicing Scope

- Replace any damaged wires or cables.
- Tighten any loose connections on the wires and control circuits.
- Check the functioning of the sensors and repairs or replace where required.
- Replace any damaged emergency lights.
- Replace any faulty components in the Lifting machines (including mobile lifting machines) circuits.
- Lights to be inspected and replaced if required.
- Any mechanical failure on the lifting machines (including mobile lifting machines) must be repaired.
- Report any faulty lights to the Supervisor or Responsible Person.
- Any other deviations and defects must also be reported to the Supervisor or Responsible Person.
- Fault finding on the lifting machines (including mobile lifting machines) must be done in case of malfunction.
- Replace any faulty motor, motor drives and/or control circuit must be replaced or repaired where required.
- Provision of damage report of faulty motors and pictures, clearly outlining breakdown of parts.
- Any default or defects on the lifting machine must be reported and attended to within 1 calendar day.
- Maintenance of Variable Speed Drives (VSD's)

3.2.4 Roller doors: Inspection, testing and repair.

- Monthly inspection and testing of listed roller doors. Inspection and testing to include balancing of doors.
- Cleaning of guide rails.
- Degreasing and regreasing of moving parts and guide rails every 90 days.

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- Re-balancing as required.
- Issue complete service and inspection/examination reports.
- Replacement of damaged slats.

3.2.5 Spares Requirements (Supply all required spares as and when required)

- The supplier will ensure that the correct spare is supplied and will replace or be liable for damage at his/her cost if the incorrect or defective spare/s is supplied. The costs may include, but not be limited to, repairs and/or plant downtime as a result of a defective or incorrect spare, to the maximum agreed value.
- The acceptance of delivered spare/s does not absolve the supplier of the liability to supply the correct and/or defect free spare.
- The supplier may at the contract manager's discretion, be given access to the plant to verify the information of the installed spare.
- The spare must be exactly the same (i.e. same Part Number) as specified on this works information and the part number will also be used to perform quality control checks.
- The contract manager may at his/her discretion make the system Engineer or others available to the supplier for the purpose of soliciting additional information or verifying information as the need arises.
- Where the spare requires testing, the supplier will inform the contract manager to invite or make available the system Engineer to witness the tests.
- Should the contract manager be dissatisfied with all or certain aspects relating to specific spare tests (Including but not limited to suspected inferior quality or non-compliance) the Supplier will make good, rectify the faults or supply a new spare at his/her cost.
- A complete price breakdown must be supplied with the quotations and must include the cost of transport to Matimba Power Station store warehouse. However, the contract manager reserves the right to use their own transport.
- Spares will be opened for inspection, counting and quality control check at the Matimba's stores.
- The Contractor must supply the lead time of all required items.
- Packaging must also include the necessary labels and data sheets to identify the items on supplier of spares.
- The employer will only be invoiced on spares procured and delivered to site by the Contractor, once it is received at the Matimba Power station Warehouse.

➤ Acceptance of spares

- No incorrect, damaged or faulty spares will be accepted.
- All the spares will be inspected before payment could be processed.

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- Where applicable, test certificates, material certificates, manuals, General Arrangement (GA) drawing/s, Approved Inspection Authority (AIA) stamps and signatures are to be provided as required.
- All defective or incorrect spares and material will be rejected and NCR will be issued for non-compliance with technical specification.
- **Warranty and Guarantee**
- The employer requires a twelve (12) months guarantee on all new spares.
- **Quality control standards:**
- Employer and Contractor will conduct quality control and this QC shall comply with ISO 9001:2015 standards.

3.2.6 Continuous Improvement

- The Contractor shall implement continuous improvement program to optimize crawl beams, Lifting machines (including mobile lifting machines, forklifts and roller doors) and Lifting tackles performance and reduce failure rates.
- The Contractor will be responsible for participating in root cause failure investigations as required by the Employer.
- The Contractor will participate in improvement programs pertaining to overhead cranes and Crawl/ beams.

Note: Contractor Performance Target. 100% reliability of cranes and lifting equipment are non-negotiable, specifically because of the safety risk involved in use of the equipment this reliability requirement drives the maintenance approach on the cranes and lifting equipment's cranes, crawls beams and lifting equipment Inspection schedule.

3.2.7 Non Exclusive Scope

a) Contract performance

- To provide a 24 hours service and standby team per day, seven (7) days of the week basis maintenance service.
- Optimisation of the system and equipment to reduce costs, maintain and enhance the condition of the equipment
- Maintain the equipment according to Eskom Computerised Maintenance Management System.
- Conduct inspection and testing of all equipment to assess and monitor equipment condition.
- Perform maintenance work in accordance of specified standard procedures and check sheet as agreed between the contractor and employer.

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- All work performed within the parameter of the scope of work.
- To keep all instructions/ procedures on hand and supply Eskom power station with reference to be included in this document add supply record and history requirements.
- Ensure that the work is performed to the highest standard and safety standards and regulations.
- Ensure crane, crawls beams and lifting device performance is guaranteed by the adhering to the best maintenance practice and equipment safe working boundaries
- The contractor will be required to purchase all non-stock items spares for the replacement and maintenance based on the work order and defects. The contractor will only use spares that are approved by Eskom.
- The employer shall QC all purchased material on delivery.
- The employer shall witness critical steps during the process of refurbishment of spares where necessary.
- The ownership and management of the critical spares resides with the contractor
- The contractor shall timeously identifying delays and adjust plans accordingly
- The employer will only be invoiced on spares procured by the contractor, once it is consumed or used in the plant.
- The Contractor will be required to supply spares in which all claims will be supported by substantiating documentation. (At least provide a minimum of two quotation for cost comparison.
- All spare parts replacements must be of the same brand that is in use on the equipment

NB: The contractor to supply other material required for the normal and emergency maintenance of the cranes, crawl beams and lifting equipment.

b) Acceptance of spares

- No incorrect, damaged or faulty spares will be accepted.
- All the spares will be inspected before payment could be processed.
- Where applicable, test certificates, material certificates, manuals, General Arrangement (GA) drawing/s, Approved Inspection Authority (AIA) stamps and signatures are to be provided as required.
- The Supplier will provide references of companies they have supplied similar spares to, the respective supply order/contract value, as well as the contact name and numbers.
- All defective or incorrect spares and material will be rejected and NCR will be issued for non-compliance with technical specification.

➤ Warrantee and Guarantee

1. The employer requires a twelve (12) months guarantee on all new spares.

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➤ **Quality control standards:**

1. Employer and supplier will conduct quality control and this QC shall comply with ISO 9001:2015 standards.

c) Site Facilities provided by Employer:

- Workshop.
- Electricity, water, and ablution facilities at no cost to the contractor.
- Office facilities at no cost to the contractor.
- Secure parking for vehicles
- Secure storage for plant and materials
- All plant and materials excluding consumables.
- Concrete Blocks required for performing load testing

d) Services Provided by the Contractor

- The *Contractor* shall be required to supply a maintenance service in terms of the scope of work of a permanent basis for the duration of the contract period.
- The contract period for this contract is 5 years.
- The Contractor shall be based at Matimba Power Station on a permanent basis for the duration of the contract period.
- The Contractor shall supply their own tools
- The Contractor shall provide a comprehensive list of all tools and electrical equipment to be used for the Maintenance Service before entering the premises of the Employer.
- All Testing equipment shall be calibrated and approved by a SANAS accredited supplier. Calibration certificates shall be made available to the Employer and all equipment used must have valid calibration at all times.
- All tools and electrical equipment shall be checked for compliance purposes before commencement of work and during the period of contract by the Employer.
- Contractor will be required to hire water bags where required for performing load testing and add handling fees accordingly.

e) Transport

Vehicle transport to and from the Employer's Premises

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- The Contractor shall be responsible to provide means of transport in order to get employees, spares, and tools onto and out from Employer premises.
- The Contractor shall ensure that all employees who is authorised to drive a motor vehicle/ specialised vehicle have the required authorisation to do so.
- All contractor transportation entering Matimba site shall be roadworthy and comply with Eskom standard.

3.3 Training and Competencies

The contractor will be required to transfer skills to Eskom employees. Eskom will provide plant safety regulations (PSR) and operating regulations for high voltage systems (ORHVS) module 1 training to the contractor personnel allocated to this contract. It is expected of the contractor to be ORHVS authorized by the end of the first 6 months of the contract start date.

The contractor shall submit the following documentations and credentials to the employer

- The Contractor shall submit their key personnel qualifications which include certificates and curriculum vitae.
- The contractor shall provide the employer with accreditations certificate and previous references.
- The Contractor is required to have a minimum of **two** people authorized as responsible person (RP) (It must be one of the execution team) so that they can be able to take permit to work for the tendered SOW.
- The Contractor must have **two** of the semi-Skilled employees accredited as LTI (lifting tackle inspector).

3.4 Guarantee on repairs

- The employer requires a 3 months guarantee on all repair work done and repeat failures will be measured.
- The Contractor must develop and submit QCP for all Critical tasks to the Employer for support before commencing with work.

3.5 Safety precautions

The contractor shall follow all Eskom's safety requirements including all lifesaving rules and regulations required to perform the work. No work will be performed without a permit to work being issued; therefore the contractor must be authorised to take permit within 6 months from the award of the contract or contract start.

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3.6 Deficiencies and modifications

No modification shall be done on plant and equipment without notifying the employer and system engineer or contract manager.

3.7 Turnaround Time

- a) Turnaround time for maintenance execution tasks are as per Eskom routine work management procedure.

3.8 Data Pack

After failure, an investigation must be conducted. The following shall be submitted to the employer:

- Failure analysis report with pictures.
- Detailed service report specifying the work to be done.
- The contractor shall supply quality assurance plan in accordance with the requirement of ISO 9001:2015 to the employer for approval. This plan must ensure an integrated quality service as part of the contract. All quality hold points and witness point must be done in the presence of an Eskom employee. Quality documents to be handed to the employer.

3.9 Quality control standards

Quality control plan shall be produced, maintained and implemented per task as agreed by the employer. The QCP must be discussed with the employer for approval. This QCP shall comply with ISO 9001:2015 standards. Any amendments to the QCP shall be discussed with the employer for approval.

3.10 Eskom Policies

The contractor's employees shall comply with Eskom's policies and site regulations, including but not limited to the use of cell phone while driving, work/activities in restricted areas, adherence to Eskom's lifesaving rules, smoking policy, zero tolerance on alcohol usage, etc. these requirements will be discussed in details during induction training process.

3.11 Emergency

The contractor will be required to attend to emergency work at no extra cost.

3.12 SHEQ requirements

- Provide safety requirements related to activities identified in the scope of work.
- The Contractor complies and ensures the compliance by its employees, agents, and Subcontractors with:

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- The provisions of the Occupational Health and Safety Act 85 of 1993 (as amended) and all regulations in force from time to time in terms of that Act ; and
- The health and safety plan prepared by the Contractor in accordance with the SHEQ requirements.
- The Contractor immediately reports any disabling injury as well as any threat to health or safety of which it becomes aware of on the Site to the Contract Manager.
- The Contractor appoints a person, qualified in accordance with the SHEQ Requirements, as the liaison with the Eskom Safety Officer for all matters related to health and safety, this person shall be contactable 24 hours a day.
- The Contractor agrees that the Employer is relieved of any and all of its responsibilities and liabilities in terms of Section 37(1) of OHSA in respect of any acts or omissions of the Contractor, and the Contractor's employees, agents or Subcontractors, to the extent permitted by the OHSA.
- The Contractor ensures that all services or works or goods supplied in terms of the Contract conform to all applicable environmental legislation. Eskom's environmental /SHEQ policy must be adhered to as a minimum.
- The contractor must supply and provide with required or necessary PPE to his or her employees at all times for free of charge.

3.13 Meetings

- a) Contractor is required to attend a daily toolbox meeting as when required.
- b) A monthly SHEQ meeting as when required.
- c) A monthly technical feedback meeting as when required.
- d) Any other meeting that may be initiated and scheduled by the contract manager or contract supervisor as when required.

3.14 Pricing/Bill of Material

- a) Cost should at least be valid for 60 days in order to accommodate Matimba procurement process.
- b) Cost should be listed in the spreadsheet and broken-down accordingly. E.g., SHEQ, training, spares, material, PPE and Consumables.etc.
- c) End user to draw up a bill of material in categories
- d) The safety costs must be quoted separately.
- e) Contractor to provide warranties and guarantee.
- f) Costs to be provided against categorised activities.
- g) Cost to be provided in Rand and in an electronic format preferably excel workable formats.
- Below is the list of items for pricing:

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Provision of Lifting Equipment's maintenance services

Unique Identifier: **SOW/230/001**

Revision: **1**

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Item No.	Description	Unit of Measure	Unit Rate
1	Total breakdown of monthly Labour rate based on 24 hours/ 7 days as per SOW.		
1.1	X1 Supervisor	Monthly (All inclusive of Overtime)	
1.2	X3 Crane Technicians	Monthly (All inclusive of Overtime)	
1.3	X4 Semi-skilled	Monthly (All inclusive of Overtime)	
2	Safety Officer	Hourly Rate (As and when required)	
3	P&G's	Monthly	
4	SHEQ File	Once-Off	
5	Site Establishment	Once-Off	
6	Site De-Establishment	Once-Off	
7	PPE	Yearly	
8	Spares/Material Overhead and Profit Percentage (Mark-up)	As and when required % Mark-up	
9	Overhead Cranes Load testing	Unit	Unit Price
9.1	100/32 Ton	Pair	
9.2	45 Ton	Each	
9.3	25 Ton	Each	
9.4	20 Ton	Each	
9.5	16/45 Ton	Pair	
9.6	15 Ton	Each	
9.7	12.5 Ton	Each	
9.8	10 Ton	Each	
9.9	5 Ton	Each	
9.10	3.2 Ton	Each	
9.11	3 Ton	Each	

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Provision of Lifting Equipment's maintenance services

Unique Identifier: **SOW/230/001**

Revision: **1**

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Item No.	Description	Unit of Measure	Unit Rate
9.12	2.5 Ton	Each	
9.13	2 Ton	Each	
9.14	1.5 Ton	Each	
9.15	65 Ton (Mobile Crane)	Each	
9.16	15 Ton (Mobile Crane)	Each	
9.17	90 Ton Mobile Crane	Each	
9.18	3 ton		
9.19	5 ton		
9.20	4 ton Forklifts	Each	
9.21	7 ton Forklifts	Each	
9.22	12 ton Forklifts	Each	
9.23	Chain block 0-15 tons load test	Each	
9.22	Auto lift	Each	
9.23	Lever hoists 0-15 tons load test	Each	
9.24	Turfor	Each	
9.25	Mobi-jack	Each	
9.26	Crawlers 0-10 ton : crack testing/ton	Each	
9.27	Eye bolt: 0-15 tons: crack testing/ton	Each	
9.28	Shackles 0-15 tons: crack testing/ton	Each	
9.29	Plate grabs 0-15 tons: crack testing/ton	Each	

10	Crawl Beams Load Testing	Unit	Unit Price
10.1	200kg	Each	
10.2	500kg	Each	
10.3	1 Ton	Each	
10.4	2 Ton	Each	
10.5	3 Ton	Each	
10.6	3.2 Ton	Each	
10.7	5 Ton	Each	

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Provision of Lifting Equipment's maintenance services

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Item No.	Description	Unit of Measure	Unit Rate
10.8	8 Ton	Each	
10.9	10 Ton	Each	
10.10	12 Ton	Each	
10.11	15 Ton	Each	
10.12	20 Ton	Each	
10.13	25 Ton	Each	
10.14	45 Ton	Each	
10.15	132 Ton	Each	

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4 Technical evaluation

Technical Aspect	Criteria	Score	Weighting %
Company Experience			
Has the tenderer provided proof of experience as per SOW in the form of Purchase order/s, contract numbers of project completion certificate/s (Start date, end date, SOW and value of the project to be provided)	5 and more years' experience as per the SOW provided(Signed Contract ,signed completion certificate)	5	40
	3-4years experience as per the SOW provided(Singed Contract, signed completion certificate)	4	
	1-2 years' experience as per the SOW provided(Singed Contract, signed completion certificate)	2	
	No experience	0	
Company LME Registration	Has the tenderer provided a valid LME registration	5	10
	Not Provide	0	
Supervisor (x1)	1. Supervisor with min of N5 electrical/Mechanical, Trade test in electrical or mechanical, Min of 5 years' experience in a supervisor level as per the SOW OR Supervisor with 10 years or more experience on overhead cranes and lifting equipment's system with training certificates, trade test certificate in electrical or mechanical.	5	10
	2. Supervisor with min of N5 electrical/Mechanical, Trade test in electrical or mechanical, Min of 3 years' experience in a supervisor level as per the SOW OR Supervisor with 7 years or more experience on overhead cranes and lifting equipment's system with training certificates, trade test certificate in electrical or mechanical.	4	
	3. Supervisor with min of N5 electrical/Mechanical, Trade test in electrical or mechanical, Min of 2 years' experience in a supervisor level as per the SOW OR Supervisor with 5 years or more experience on overhead cranes and lifting equipment's system with training certificates, trade test certificate in electrical or mechanical.	2	
	No experience	0	

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Technical Aspect	Criteria	Score	Weighting %
Crane Technicians (x3)	1. Min of N4 Electrical/Mechanical, Trade test certificate in electrical or mechanical, Min of 5 years' experience as Technician on overhead cranes and lifting equipment OR 2. Technician with 10 years or more experience on overhead cranes and lifting equipment's with training certificates, trade test certificate in electrical or mechanical	5	15
	1. Min of N4 Electrical/Mechanical, Trade test certificate in electrical or mechanical, Min of 4 years' experience as Technician on overhead cranes and lifting equipment OR 2. Technician with 7 years or more experience on overhead cranes and lifting equipment's with training certificates, trade test certificate in electrical or mechanical	4	
	1. Min of N4 Electrical/Mechanical, Trade test certificate in electrical or mechanical, Min of 3 years' experience as Technician on overhead cranes and lifting equipment OR 2. Technician with 5 years or more experience on overhead cranes and lifting equipment's with training certificates, trade test certificate in electrical or mechanical	2	
	No experience	0	
Semi-Skilled (x4), 2 must be accredited as LTI (lifting tackle inspector)	1. Min of Grade 12 (Maths and Physical sciences) or N3 (Electrical or Mechanical), Min of 5 years' experience on overhead and lifting equipment's OR 2. Semi-skilled with 10 years or more experience on overhead cranes and lifting equipment's, with certificates as per SOW	5	5
	1. Min of Grade 12 (Maths and Physical sciences) or N3 (Electrical or Mechanical), Min of 3 years' experience on overhead and lifting equipment's OR 2. Semi-skilled with 7 years or more experience on overhead cranes and lifting equipment's, with certificates as per SOW	4	

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Technical Aspect	Criteria	Score	Weighting %
	1. Min of Grade 12 (Maths and Physical sciences) or N3 (Electrical or Mechanical), Min of 2 years' experience on overhead and lifting equipment's OR 2. Semi-skilled with 5 years or more experience on overhead cranes and lifting equipment's, with certificates as per SOW	2	
	No experience	0	
Method Statements	Comprehensive method statement on various types of lifting equipment submitted as per SOW	5	20
	Minimal method statement on various types of lifting equipment submitted as per SOW	4	
	Submitted method statement does not include various types of lifting equipment's as per SOW	2	
	Method statement very poor or not submitted	0	

a. Commercial evaluation

- Financial Evaluation to be carried out by Finance personnel.
- Commercial documents should be signed by Commercial Manager.

5 Record(s)

- Users should keep records of signed minutes, attendance registered, and all communications must be recorded in an email and kept in a file.
- All records and archives are to be recorded using Eskom Systems. Expected records to be captured reported and archived are daily logs of plant inspections and defects, weekly and monthly records of each contractor and any other report that might be deemed necessary by Matimba Power station.
- All records should be submitted manually and electronically to the relevant Contract supervisor or Contract manager. Any records or drawings developed will remain property of Eskom Matimba Power Station. All communications must be recorded in an email and kept in a file.

6 General:

- Housekeeping must always be good and follow proper stacking standards
- Employees must be provided with proper accommodation at least with water, lights and sanitation.
- Assessments to be submitted on the 25th of every month, failure to submit will lead to NCR being issued.

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7 Acceptance

This document has been seen and accepted by:

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8 Development Team

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

- Distribution list

9 Acknowledgements

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