 Eskom	Specification	Medupi Power Station
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**Medupi Power Station Crawl Beams, Block and  
Tackle, Lifting Machines and Lifting Tackles  
Maintenance and Spares User Requirement  
Specification**

Unique Identifier: 240-87850540

Revision: 3

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## **1. Introduction**

Medupi Power Station Management has decided to outsource the Lifting Machines, Lifting Tackles, Crawl Beams and Crawlers' maintenance function to a suitably qualified, experienced, and well-established Contractor for a period of 5 years (72 months). This document describes the detail of this Scope of Work, standards, quality, requirements, specifications, terms and conditions as well as the criteria to qualify for the tender.

## **2. Supporting Clauses**

### **2.1 Scope**

The content of this document applies to all lifting machines, lifting tackles, crawl beams and crawlers' which belong to Medupi Power Station Generation Division.

#### **2.1.1 Purpose**

The purpose of this document is to define the lifting machines, lifting tackles, crawl beams and crawlers' maintenance service requirements for Medupi Power Station.

The station is expected to perform at 92% UCF, 6% PCLF and 2% UCLF, and crawl beams, lifting machines and lifting tackles maintenance service strategy efforts must support these requirements.

It is therefore imperative that the successful and suitably qualified Contractor aligns his/her organisation fully to the activities and processes laid down in this document.

#### **2.1.2 Applicability**

This document is applicable to all lifting machines, lifting tackles, crawl beams and crawlers' maintenance activities associated with Medupi Power Station Generation Division.

#### **2.1.3 Effective date**

The effective date of this document is as per the date and signature of the authoriser as indicated on the cover page of this document.

### **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] 32-726 Rev 0: Mandatory S.H.E Requirements for the Eskom Procurement and Supply Chain Management Process.
- [3] 240-97020108: Medupi Power Station maintenance URS rev 5

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- [4] 240-150642762: Generation Plant Safety Regulations rev 3
- [5] 240-44948953: Work Prioritisation Procedure rev 2

## 2.2.2 Informative

- [1] OPS 8047: Statutory examination and testing of lifting machines load testing of electric overhead travelling (E.O.T.) cranes and keeping records.
- [2] National Environmental Management Act 107 of 1998
- [3] Occupational Health and Safety & Regulations Act No 85 of 1993
- [4] ASME B30.2 -2001 – Overhead and Gantry Crane
- [5] ASME B30.10 -1999 – Hooks
- [6] ASME B30.16a -2001 – Overhead hoist (underhung)
- [7] ASME B30.17b -2001 – Overhead and Gantry Cranes
- [8] B30.16 – overhead Hoists
- [9] SANS 61-1:2003/ISO 10245-1:1994, IDT, Ed. 1- Cranes – Limiting and indicating devices Part 1: General.
- [10] SANS 4301-1:2002/ISO4301-1:1986, IDT, Ed. 2 – Cranes and lifting appliances – Classification Part 1: General.
- [11] SANS 4301-5: 1991, IDT, Ed. 1 (SABS ISO 4301-5) – Cranes – Classification Part 5: Overhead travelling and portal bridge cranes.
- [12] SANS 4302:2002/ISO 4302:1981, IDT, Ed. 1 – Cranes – Wind load assessment.
- [13] SANS 4304:2008/ISO 4304:1987, IDT, Ed. 1 – Cranes other than mobile and floating cranes – General requirements for stability.
- [14] SANS 4308-1:2005/ISO 4308-1:2003, IDT, Ed.3 (SABS ISO 4308-1) – Cranes and lifting appliances – Selection of wire ropes Part 1: General.
- [15] SANS 4309:2005/ISO 4309:2004, IDT, Ed. 3(SABS ISO 4309) – Cranes – Wire ropes – Care, maintenance, installation examination and discard.
- [16] SANS 4310:2002/ISO 4310:1981, IDT, Ed. 1 – Cranes – Test code and procedures.
- [17] SANS 7296-1:2007/ISO 7296-1:1991. IDT, Ed. 1 – Cranes – Graphic symbols Part 1: General.
- [18] SANS 7363: 2002/ISO 7363:1986, IDT, Ed. 1 – Cranes and lifting appliances – Technical characteristics and acceptance documents.
- [19] SANS 7752-5:2002/ISO 7752-5:1985. IDT, Ed. 1 – Lifting appliances – Controls – Layout and characteristics –Part 5. Overhead travelling cranes and portal bridge cranes.
- [20] SANS 8566-1:2002/ISO 8566-1:1992, IDT, Ed. 1 – Cranes – Cabins Part 1: General.
- [21] SANS 8566-2:2007/ISO 8566-2:1995, IDT, Ed. 1 – Cranes - Cabins Part 2: Mobile cranes.
- [22] SANS 8566-5:2002/ISO 8566-5: 1992, IDT, Ed. 1 – Cranes – Cabins Part 5: Overhead travelling and portal bridge cranes.

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- [23] SANS 8686-5:2003/ISO 8686-5:1992, IDT, Ed. 1 – Cranes Design principles for loads and load combinations Part 5: Overhead travelling and portal bridge cranes.
- [24] SANS 9373:2007/ISO 9373:1989, IDT, Ed.1 – Cranes and related equipment – Accuracy requirements for measuring parameters during testing.
- [25] SANS 9374-1:2002/ISO 9374-1:1989, IDT, Ed. 1 - Cranes – Information to be provided Part 1: General.
- [26] SANS 9926-1:2006/ISO 9926-1:1990, IDT, Ed. 1 – Cranes – Training of drivers Part 1: General.
- [27] SANS 9928-1:2006/ISO 9928-1:1990, IDT, Ed. 1 – Cranes – Crane driving manual Part 1: General.
- [28] SANS 10148:2003 (SABS 0148) – The installation and operation of cable cranes and aerial rope-ways.
- [29] SANS 10294:2000(SABS 0294) – The performance, operation, testing and maintenance of drums winders relating to rope safety.
- [30] SANS 10296:2008(SABS 0296) – Hand signals used with cranes and with lifting and suspended equipment.
- [31] SANS 10308:2006(SABS 0307) – Cranes, lifting and suspended equipment – Support documentation and training
- [32] SANS 10375:2006 – The inspection, testing and examination of overhead cranes.
- [33] SANS 10973:1995/ISO 10973:1995, IDT, Ed. 1 (SABS ISO 10973) – Cranes – Spare parts manual.
- [34] SANS 11629:2007/ISO 11630:1997, IDT, Ed. 1 - Cranes – Measurement of the mass of a crane and its components.
- [35] SANS 11630:2007/ISO 11630:1997, IDT, Ed. 1 – Cranes – Measurement if wheel alignment
- [36] SANS 11660-1:2007/ISO 11660-1:1999, IDT, Ed.1 – Cranes – Access, guards and restrains Part 1: General.
- [37] SANS 11994:2008/ISO 11994:1997, IDT, Ed.1 – Cranes – Availability – Vocabulary.
- [38] SANS 12478-1:2006/ISO 12478-1:1997, IDT, Ed. 1 – Cranes – Maintenance manual Part 1: General.
- [39] SANS 12480-1:2006/ISO 12480-1:1997, IDT, Ed. 1 – Cranes – Safe use Part 1: General.
- [40] SANS 12482-1:2008/ISO 12482-1:1995, IDT, Ed. 1 – Cranes – Condition monitoring Part 1: General.
- [41] SANS 12488-1:2008/ISO 12482-1:1995, IDT, Ed. 1 – Cranes – Condition monitoring Part 1" General.
- [42] SANS 12488-1:2007/ISO 12488-1:2005, IDT, Ed. 1 – Cranes – Tolerances for wheels and travel and traversing tracks Part 1: General.
- [43] SANS 13202:2007/ISO 13202:2003, IDT, Ed.1 – Cranes – Measurement of velocity and time parameters
- [44] SANS 14518:2008/ISO 14518:2005, IDT, Ed. 1 – Cranes – Requirements for test loads.

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- [45] SANS 15513:2008/ISO 15513:2000, IDT, Ed. 1 – Cranes – Competency requirements for cranes drivers (operators), slingers, signallers and assessors.
- [46] SANS 1596:2008/ISO/TS 15696:2000, IDT, Ed. 1 – Cranes – List of equivalent terms
- [47] SANS 23853:2006/ISO 23853:2004, IDT, Ed. 1 – Training of slingers and signallers.
- [48] SANS 25599:2008/ISO/TR 25599:2005, IDT, Ed.1 – Cranes – Jib cranes – International standards for design, manufacturing, use and maintenance requirements and recommendations.
- [49] SANS 50081 -1:2004- Safety rules for the construction and installation of cranes.
- [50] SANS 10142 -1:2008 – The wiring of premises Part 1: Low Voltage installations.

## 2.3 Definitions

Definition	Explanation
Block and Tackle	Means a lifting device consisting of one or more pulley blocks reeved with chains, wire ropes or fibre ropes used solely for the raising and lowering of a load or moving a load horizontally
Contractor	Service provider contracted for supply specific service to Eskom, Medupi Power Station
Employer	Eskom or Eskom Medupi Power Station representative appointed in writing.
Lifting Machine	Means a power-driven machine which is designed and constructed for the purpose of raising and lowering a load or moving it in suspension, and includes a block and tackle, hoist, crane, lift truck or jib-crane, but does not include an elevator, escalator, good hoist or builders' hoist.
Lifting Tackle	Means chain slings, rope slings, rings, hooks, shackles, swivels, spreaders, or similar appliances
Overhead Crane	A crane with a movable bridge carrying the movable or fixed hoisting mechanism and travelling on an overhead runway structure.

### 2.3.1 Document:

None

## 2.4 Abbreviations

Abbreviation	Explanation
DoL	Department of Labour
KPA	Key Performance Area
KPI	Key Performance Indicator
LME	Lifting Machinery Entity

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Abbreviation	Explanation
LMI	Lifting Machinery Inspection
PCLF	Planned Capability Loss Factor
PPE	Personal Protective Equipment
PSR	Plant Safety Regulations
QCP	Quality Control Plan / Inspection and Test Plan
QMP	Quality Management Programme
SABS	South African Bureau of Standards
SAP	Systems, Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management)
SHE	Safety, Health, Environment
UCF	Unit Capability Factor
UCLF	Unplanned Capability Loss Factor
URS	User Requirements Specification

## **2.5 Roles and Responsibilities**

### **2.5.1 Employer**

An employer shall ensure that:

- That the relevant information in this specification is communicated to all Eskom supervisors, employees, contractors and Temporary Employment Service Providers and any other relevant persons.
- That this user requirement is adhered to.

## **2.6 Process for Monitoring**

The Employer will establish a sound contract management principle.

## **2.7 Related/Supporting Documents**

240-97020108: Medupi Power Station maintenance URS rev 5

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### **3. Document Content**

This section contains all general requirements for lifting machines, lifting tackles, crawl beams and crawlers' maintenance including the provision of spares.

#### **3.1 Adherence to Eskom generic policies**

All Contractor employees shall comply with Eskom policies and site regulation Medupi Power Station maintenance URS rev 5 etc. These requirements will be detailed during the induction training process and are stipulated in the reference document and their references.

#### **3.2 Sub Provision of manpower**

The Contractor shall utilise or provide suitably skilled and qualified staff and ECSA registered (when applicable) staff.

With current experience in the following disciplines:

- Crawl beams, lifting machines and lifting tackles maintenance (preventative and corrective), inspections
- Crawl beams, lifting machines and lifting tackles load testing
- Crawl beams, lifting machines and lifting tackles failure analysis investigation
- Working knowledge of SAP R/3 system
- Occupational Health and Safety Act 85/1993 and (SHE) Standards
- Staff must have minimum requirements as per Eskom job descriptions requirements, with additional requirements specified.
- Quality Management Control and Assurance.
- Able to obtain Plant Safety Regulations authorisation

#### **3.3 Equipment**

The Contractor shall be responsible for:

- The provision of suitable calibration certificates, cradles certificates, test weights and / or loads cells as applicable.
- All lifting machines and lifting tackles maintenance and provision of spares (if agreed to by employer) during the execution of the work associated with the contract.

#### **3.4 Re-commissioning**

All the equipment isolated for maintenance intervention shall be re-commissioned after start-up and recorded into history. All plant equipment shall be re-qualified after any maintenance intervention.

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### **3.5 Defects and liability period**

The Contractor shall be responsible or held liable for any defects arising from lifting machines, lifting tackles, crawl beams and crawlers' maintenance faults one month after a maintenance intervention.

### **3.6 Outage**

The Employers representative, in conjunction with the Contractor, is to prioritise work to ensure that lifting machines, lifting tackles, crawl beams and crawlers' service availability during operation of plant and/or outage periods. A full inspection or maintenance plan shall be carried out on all lifting machines, lifting tackles, crawl beams and crawlers' going to be utilised within an outage. Should a malfunction occur, the Contractor is to provide the service requirement to restore the plant operating order within 4 hours of receiving the notification.

### **3.7 Contractor's management, supervision, and key people**

- The number of staff required to execute this work is to be decided by the Contractor after his assessment of the scope of work and submitted to the Employer for approval.
- Every individual in the team is to be formally qualified in his/her trade with 5 years' experience.
- Proof of qualification is to be supplied if requested by the Employer.
- The Contractor will be registered with DoL as a LME.
- A lifting machinery inspector (LMI) should be part of the works
- The Contractor shall ensure that his staff brought onto site in connection with the works shall be fluent on the English language.
- The Contractor's employees shall supervise the carrying out of works. Any instruction, directive or notice which the Employer may give to the said employees shall be deemed to have been given to the Contractor.
- The Contractor shall employ in and about the execution of the works only such persons that are careful, competent and efficient in their several trades and callings and the Employer shall be at liberty to object to and require the Contractor to remove from the works forthwith any person employed by the Contractor in or about the execution of the works who, in the opinion of the Employer, misconducts himself or is incompetent or negligent in the proper performance of his duties and such person shall not be again employed for the works without the written permission of the Employer.
- The person who operates the cranes should be an authorised person in possession of a valid crane operating certificate from training, issued by a person or organisation approved for the purpose according to the Occupational Health and Safety Act no. 85 of 1993.

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### **3.8 Contractor Staff**

The Contractor shall make use of local (Lephalale) manpower to execute the works.

### **3.9 Plant and Materials**

For the spare cost optimization purpose, all spares are to be supplied by the Contractor as per pricelist. Minimum of three quotations to be issued different suppliers for items that are to be procured.

Please note that overhead cranes will only form part of the works once the respective area has been commissioned and handed over to Generation.

### **3.10 Works information**

#### **3.10.1 Mechanical Description of Service**

- Lifting machines, lifting tackles, crawl beams and crawlers' service include servicing of overhead cranes, load testing crawl beams and load testing as per the requirements of the OH&SA of all rigging equipment at the Employer's site as identified by the Employer.
- The list of lifting machines, lifting tackles, crawl beams and crawlers on site shall be compiled by the Employer based on the progress on the project.
- The list will change anytime during the contract period due to required engineering changes i.e., modifications, installations of new items and establishment of other lifting items.
- Provision of water bags for load testing at areas that cannot be accessed with load cells.
- The Contractor is required to ensure total reliability of all the overhead cranes and Crawl Beams.
- Liaison meetings shall be held with the Employer's Representative or his/her delegates on a monthly basis (non-outage periods) and weekly basis (Outage periods) to discuss any technical details, or concerns.
- The Contractor is to ensure that any service rendered does not interfere with the Employer's scheduled work and should align with the Employer's work control process.
- Should the Employer become aware of any changes to the activity schedule (programme of notification), the Employer may issue the Contractor with a revised programme.
- Load testing of lifting machines and crawl beams is to be planned and executed in conjunction with the Employer's works management section.
- Load testing certificated to be provided by the Contractor.

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- Quality control – all work accomplished under this contract shall conform to the existing quality control procedures of the Employer.
- Results of any maintenance inspections or examinations has to be dated and signed by the competent person or and authorised Lifting Machinery Inspector and be kept for the lifetime of the Power station or at least for as long as the specific overhead crane is in operation on SAP.

### **3.10.2 Electrical Description of Service**

The following is the electrical component to be looked at when maintenance has to be performed in the Lifting machines:

- Electric Motors
- Electric motor drives
- Motor generator
- Electronic control circuit
- Lighting and plugs
- Motor room switchgears
- Wiring, including trailing cables, wiring to gate locks and to drive motors
- Normal cabling
- Electronic feedback sensors
- Emergency lights
- Operating panels
- Position indicators
- Emergency/safety gears
- Push button panels
- Limit switches, relays contractors, timers and star-delta circuits
- Control panels
- Interlock switches
- Load limiters

### **3.10.3 Electrical Servicing Scope**

The strategy required to determine the conditions of the Lifting machines are fixed periodicity:

- Visual Inspection

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- Test and measurements
- Repairing and replacing of defective equipment's
- The security risk of the plant due to an ineffective system will be minimized by repairing the defects and addressing the issue highlighting by these actions.

#### **3.10.4 Visual Inspection**

Visual inspections are carried out on all the electrical and mechanical components of Lifting machines. The following criteria are covered on the inspection list:

- Inspect all the main components of the crawl beams, lifting machines and lifting tackles for defects
- Check for any signs of overheating on the electrical motor
- Confirm exact controller response to commands for the cranes
- Check for any undue contact arcing
- Observe the operation of the relays, contractors, timers circuits and star-delta timing for any abnormalities
- Inspect/repair condition of lights and plugs.
- Ensure all the signs on the cranes are in order.
- Motor must be inspected.
- Emergency stops and alarm on the lifting machines must be maintained
- Inspect all the domestic circuits
- Inspect any abnormality on the crane movement
- Ensure the protection indication devices are working.
- Do visual inspections on crane structure.
- Inspection of Crawl Beams, lifting machines and lifting tackles

#### **3.10.5 Testing and measurements**

- Ensure all tests are performed and carried out as per statutory.

#### **3.10.6 Repairing and replacing of defects**

- 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

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- Replace any faulty components in the Lifting machines' circuits
- Lights to be inspected and replaced if required
- Any mechanical failure on the 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 must be done in case of malfunction
- Any faulty motor, motor drives and/or control circuit must be replaced or repaired where required.
- Any default or defects on the lifting machine must be reported and attended to as soon as possible because of safety or within 24 hours.

#### **3.10.7 Continuous Improvement**

- The Contractor shall implement a program of continuous improvement to optimise Crawl Beams, lifting machines 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.

#### **3.10.8 Lubrication Management**

- The Contractor will be required to contain spillages and clean up oil / grease spillage.
- The Employer will be responsible for lubrication of Lifting machines and Lifting tackles
- The Contractor to compile a spillage procedure.
- The philosophy around spillages is whoever spills pays.

#### **3.10.9 Management and reporting**

- The Contractor will be responsible for implementing a performance management system in line with the employer's supplier management requirements.
- The KPA's, KPI's and Matrices required will be jointly agreed by the employer and the contractor. Typical KPI's includes:
- Availability and reliability of overhead cranes and crawler beams

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- The type of reports, level of details and frequency of reporting will be mutually agreed by the Employer and the contractor during the contract negotiation phase of this agreement. These can be changed from time to time to suit the nature of the contract.

#### **3.10.10 Quality control and documentation control**

The Contractor conforms to the following Quality Management requirement:

- The quality requirements are as per ISO 9001,
- The Contractor submits a fully detailed Quality Management programme (QMP) for acceptance within four weeks of the contract date.
- No work is allowed on site unless the Employer accepts the QMP.
- The Contractor utilises the Employer's quality documentation forms for requesting access, erection checks etc. these request forms are to be submitted to the employer at least one week prior to the requested activity, or as agreed to by the Employer.
- The Contractor is responsible for defining the level of QA/QC or inspection to be imposed on his sub-contractors and suppliers of material. This level should be based on criticality on plant and material and be submitted to the Employer for acceptance.

The Contractor submits a quality report monthly, including the following:

- A list of defects with those older than 14 days being flagged, and explanation attached.
- Inspections completed / outstanding
- Project quality progress report
- The Contractor submits the following:
  - QA plan/manual
  - No design and development activities are required

#### **3.10.11 Lifting machines testing requirements for performance tests**

- Contractor must conduct performance testing includes both operational testing and load performance testing. For any Lifting machine, the manufacturer's guidance has precedence over this general guidance and the manufacturers' guidance shall be followed.
- The following sequence and limitation shall be complied with conduction performance tests:

Test rigging

Conduct the operational performance test before the load performance test.

Test the main hoist before testing the auxiliary or whip hoist.

Test loads shall be raised only to be a height sufficient to perform the test.

- The Contractor shall conduct visual inspection by an LMI of the installations, prior to testing.
- The following tests are required after inspection

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Load testing to manufacturing standards or to 110% of the maximum Safe Working Load if the manufacturing standard is not available.

Deflection test to be carried out in accordance with the standard which Lifting machine was manufactured or 1/750th of that span under maximum safe working load if the standard does not specify deflection.

Test the operation of the hoist brake with the power supply turned off and maximum safe working load applied.

### **3.10.12 General works**

- 1) Any work required to be performed under this contract can only be performed upon receipt of a task order.
- 2) All works will be subjected to anytime inspection from the Employer.
- 3) The Contractor shall record all as found conditions, corrective actions and measuring and testing equipment. The contractor shall be responsible for completing the work order for capturing the history on the SAP system.
- 4) The Contractor is to ensure that the work area is to be left in the same or a better state after completion of work.
- 5) The Contractor to execute the work within the times stipulated on the works order.
- 6) The Contractor shall ensure that any witness, hold and inspection points are strictly adhered to.
- 7) The Contractor ensures that all goods in terms of the contract conform to all applicable environmental legislation and to the Employer's environmental specifications.
- 8) The Contractor during the duration of the contract shall train at least one person per year from the local community in relation to the work; such proof shall be given to the Employer for verification and acceptance.
- 9) The contractor shall be responsible for ensuring resource availability upon request during normal working hours, overtime or emergencies and standby
- 10) The contractor shall attend to callouts within 45 minutes, starting from the time a callout is made.

### **3.11 Site facilities and services provided the Contractor**

#### **3.11.1 General**

- Before work starts on Site, an inaugural meeting is held with the Contractor and the Employer, to explain in detail all requirements of the Site Regulations.
- The Contractor is issued with a file of current Site Regulation on arrival. The file remains the property of the Employer and the Contractor is responsible for its maintenance and updating to include new or revised regulations as issued by the Employer.

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- All maintenance technically qualified (above semi-skilled) Contractors may be trained and authorised (in terms of PSR) within 3 months of the contract award date. Training shall be supplied by the Employer.  
This requires individuals to successfully complete a written and oral examination for the relevant regulation based on the Plant Safety Regulations.
- The first attempt shall be paid by the Employer and the Contractor shall be responsible for the costs of other attempts should he/she fails to obtain authorisation within three months.

### **3.11.2 Communication and correspondence**

All correspondence includes

- a) Medupi Power Station
- b) Employer's Contract number
- c) Contract description
- d) Correspondence subject matter
- e) Employer's name and contact details
- f) Contractor contact details
- g) Date

Where appropriate the correspondence includes the Employer's reference and is delivered as a single package. All communication from the Contractor is numbered sequentially with a prefix as advised by the Employer. The Employer responds in like manner. The prefix numbering system is decided upon at the inaugural meeting.

### **3.11.3 Service Cost**

- The Contractor shall complete a history data for each notification executed.
- The Contractor's performance evaluation shall be done during monthly meeting between the Contractor and the Employer.

## **4. Acceptance**

This document has been seen and accepted by:

<b>Name</b>	<b>Designation</b>
Bonolo Mampa	System Engineer
Thomas Chambale	System Engineer
Tshepo Sethosa	Auxiliary Mechanical Maintenance Manager
Joshua Lekoloane	Boiler Mechanical Maintenance Manager
Siphehile Noguda	Turbine Mechanical Maintenance Supervisor

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## 5. Revisions

Date	Rev.	Compiler	Remarks
May 2022	3	L Mohoto	<ul style="list-style-type: none"><li>• New revision</li></ul>
October 2016	2	TL Sethosa	<ul style="list-style-type: none"><li>• </li></ul>
January 2015	1	G Mufamadi	<ul style="list-style-type: none"><li>• Change old format to new format</li><li>• Change document number from 237-0082 to 240-87850540</li><li>• Including lifting tackle and block and tackle in the URS</li></ul>
June 2011	0	N Walters	Maintenance of Crawler Beams and Cranes

## 6. Development Team

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

- Lwazi Mohoto
- Mahlane Letselane

## 7. Acknowledgements

None

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## **Appendix A – Eskom Document Hierarchy**

### **A.1 Document Hierarchy**

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