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|  | Specification | Kusile Power Station |
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### **CONTROLLED DISCLOSURE**

## **1. Introduction**

Kusile Power Station Management is in support of the vision to establish a partnership to perform the lifts (Rack and Pinion) maintenance function with a suitably qualified, experienced and well established Contractor. This document describes the detail of the scope of work, standards, quality, requirements, specifications, terms & conditions as well as the criteria to qualify for the tender.

## **2. Supporting Clauses**

### **2.1 Scope**

The purpose of this document is to define the Rack and Pinion Lifts Maintenance scope of work requirements for Kusile Power Station. The lifts must be at least 95% availability, 3% planned outages and 2% unplanned unavailability. The lifts maintenance strategies must support and meet this requirement. It is therefore imperative that the successful and suitably qualified Contractor aligns his/her organisation fully to these specified scope activities and processes laid down in this document.

#### **2.1.1 Purpose**

#### **2.1.2 Applicability**

This document is applicable to all permanent Rack and Pinion elevators/lifts at Kusile Power Station.

#### **2.1.3 Effective date**

This document is effective from authorisation date.

### **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] SANS 53015 Maintenance for lifts and elevators
- [3] SANS 1545-10 Testing and Inspection of lifts
- [4] SANS 14798 Lifts (elevators), escalators and moving walks – Risk assessment and reduction methodology

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- [5] SANS 50081-80 Safety rules for the construction and installation of lifts- Part 80: rules for the improvement of safety of existing passenger and goods lifts
- [6] 240-56179027 Safety Measures and Approved Protective Clothing and Personal Protective Equipment against the Thermal Hazards of an Electric Arc for Metal Clad Switchgear (Up to 11 kV).
- [7] 240-75850027 Inspection, Testing and Maintenance of Lifts, Escalators and Passenger Conveyors Standard
- [8] Occupational Health and Safety Act No.85 of 1993 “Lift, Escalator and Passenger conveyor Regulations” GNR.828 of 17 September 2010, including subsections 4(2) (3) (4), 5(1), 6(1-5), 7(a-f), 7(2).
- [9] Act No 73 of 1989 The Environment Conservation Act No 107 of 1998: National Environmental Management Act, 1998
- [10] Act No 14 of 2009 The National Environmental Act, 1989
- [11] Act No 102 of 1980 National Key Points Act, 1980
- [12] Act No 36 of 1998 National Water Act, 1998
- [13] Act No 85 of 1993 Occupational Health and Safety Act & Regulations, 1993.

### **2.2.2 Informative**

- [14] 240-98162374 Kusile Maintenance User Requirement Specification
- [15] 240-102770193 Maintenance Execution Strategy for Kusile Power Station Lifts
- [16] 203-15299 ACC lift Operating and Maintenance Manual
- [17] 32 - 726 Mandatory S.H.E. Requirements for the Eskom Procurement and Supply Chain Management Process
- [18] 237 - 0016 Integrated Business Improvement – prevention and improvement standard
- [19] 36-681 Plant Safety Regulations
- [20] NMP47-7 Application of KKS Plant Coding
- [21] 36 -702 Remnant Life Monitoring
- [22] GGSS 1181 Specification for chemical product and material used in a power plant
- [23] GVLIR 0007 Safety, Health and Environment Specifications for Contractors
- [24] ESKASAAA3 Eskom approval of personnel performing quality related special processes.
- [25] Contractor OHS Management Strategy
- [26] Contractor Safety Improvement Plan

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## **2.3 Definitions**

**2.3.1 Availability:** Period when a system is operating satisfactory when used under specified conditions

**2.3.2 Contractor:** Service provider contracted to provide a specific service to Eskom, Kusile Power Station.

**2.3.3 Employer:** Eskom, or Eskom Kusile Power Station or representative

## **2.4 Abbreviations**

| <b>Abbreviation</b> | <b>Explanation</b>                        |
|---------------------|-------------------------------------------|
| <b>AP:</b>          | Appointed Person                          |
| <b>BOM:</b>         | Bills of Material                         |
| <b>BU:</b>          | Business Unit                             |
| <b>COC:</b>         | Certificate of Compliance                 |
| <b>CT:</b>          | Current transformer                       |
| <b>DIIR</b>         | Disabling Injury Incidence Rate           |
| <b>EMS:</b>         | Environmental Management System           |
| <b>ISO:</b>         | International Standards Organisation      |
| <b>KKS:</b>         | Kraftwerk Kennzeichen System              |
| <b>KPA:</b>         | Key Performance Area                      |
| <b>KPI:</b>         | Key Performance Indicator                 |
| <b>LTIR:</b>        | Lost Time Injury Rate                     |
| <b>LV:</b>          | Low Voltage (< 1000V)                     |
| <b>NEC:</b>         | New Engineering Contract                  |
| <b>OEM:</b>         | Original Equipment Manufacturer           |
| <b>OHSAS</b>        | Occupational Health and Safety Assessment |
| <b>OHS Act</b>      | Occupational Health and Safety Act        |
| <b>O&amp;M:</b>     | Operating and Maintenance Manual          |

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| <b>Abbreviation</b> | <b>Explanation</b>                                                                                                                           |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>PI test:</b>     | Polarisation Index test                                                                                                                      |
| <b>PLC:</b>         | Programmable Logic Controller                                                                                                                |
| <b>PM:</b>          | Plant Maintenance                                                                                                                            |
| <b>PPE:</b>         | Personal Protective Equipment                                                                                                                |
| <b>PS:</b>          | Power Station                                                                                                                                |
| <b>PSR</b>          | Plant Safety Regulations                                                                                                                     |
| <b>PTW:</b>         | Permit to Work                                                                                                                               |
| <b>QA:</b>          | Quality Assurance                                                                                                                            |
| <b>QC:</b>          | Quality Control                                                                                                                              |
| <b>QCP:</b>         | Quality Control Plan                                                                                                                         |
| <b>QMP:</b>         | Quality Management Programme                                                                                                                 |
| <b>RP:</b>          | Responsible Person                                                                                                                           |
| <b>SABS:</b>        | South African Bureau of Standards                                                                                                            |
| <b>SANS:</b>        | South African National Standards                                                                                                             |
| <b>SAP PM:</b>      | SAP Plant Maintenance                                                                                                                        |
| <b>SAP:</b>         | Systems, Applications, Products (Plant Maintenance, Procurement, Finance and Materials Management) integrated maintenance management system. |
| <b>SHE:</b>         | Safety, Health, Environment                                                                                                                  |
| <b>SOW:</b>         | Scope of Work                                                                                                                                |
| <b>UCLF</b>         | Unplanned Capability Loss Factor                                                                                                             |
| <b>URS:</b>         | User Requirement Specification                                                                                                               |
| <b>VSD:</b>         | Variable Speed Drive                                                                                                                         |
| <b>VT:</b>          | Voltage Transformer                                                                                                                          |

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## **2.5 Roles and Responsibilities**

### **2.5.1 Contractor**

- a) All Contractor employees shall comply with Eskom's policies and site regulations, adherence to Eskom's Life Saving Rules, adherence to Generation Occurrence Management Procedure, smoking policy, zero tolerance on alcohol usage, etc. These requirements will be detailed during the induction training process. This document will be used in conjunction with the Kusile Maintenance URS (latest approved revision).
- b) The number of maintenance staff required to execute the works is to be decided by the Contractor after his/her assessment of the scope of work and submitted to the Employer for approval.
- c) All Contractor employees must undergo Induction training on site every year
- d) Full PPE must be worn at all times before undertaking work. The provision of PPE shall be responsibility of the Contractor
- e) All safety and health related incidents around site or working areas threats that pose a danger to anyone's life or health must be reported immediately
- f) Contractor will be responsible for providing resources and tools for the required works
- g) Contractor will be responsible for ensuring the scope is carried out in full.
- h) The successful Contractor shall utilise/provide skilled and suitably qualified staff with current experience in the following but not limited disciplines;
  - i. Competent Maintenance Person according to OHSAS Act
  - ii. Knowledge of SANS 53015 Maintenance of Lifts and Elevators
  - iii. Occupational Health and Safety Act 85 of 1993
  - iv. NEC contract management
  - v. Quality Management Control and Assurance procedures
  - vi. Plant Safety Regulation authorisation
  - vii. Spares optimisation
  - viii. Lifts plant optimisation and commissioning
  - ix. Procedure writing
  - x. BOM compilation
- i) Staff must meet minimum requirements of Eskom job descriptions, with additional requirements specified.
- j) All staff brought onto site in connection with this work scope should be able to fluently speak, understand and write in English.

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- k) Proof of qualification is to be supplied on request by the Employer.
- l) The Contractor ensures that all staff being brought onto Kusile site has a valid fitness certificate based on the specified plant man-job specification.
- m) 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 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/her duties and such person shall not be again employed for the works without the written permission of the Employer.
- n) Provide daily supervision of all related plant through trained and competent personnel to ensure that inspections & work activities are conducted daily.
- o) Shall provide sufficient assistance to technician for fault finding recurring faults.
- p) Shall provide services of a registered independent lift inspector on an as and when required basis for the purpose of inspections and testing, and statutory services as per the regulation
- q) Ensures proper behaviour of personnel under his/her supervision as per the Kusile culture.
- r) Ensures training of all personnel under his/her supervision. The training required will include but not limited to Eskom safety training requirements, related plant training and Kusile culture.
- s) Ensures high morale of staff and competency.
- t) Ensures that throughout the duration of the contract that they conform and adhere to the Safety, Health and Environment regulations as stipulated in the Kusile Maintenance URS
- u) On completion of any work the relevant piece of equipment shall be properly re-commissioned prior to the clearance of the permit to work. A comprehensive risk assessment shall be done prior to the work being carried out.
- v) To ensure the employees attend Plant Safety Regulation and go through the committee for authorisation
- w) The Contractor shall be responsible or held liable for any defects arising from maintenance/operational faults twenty four hours after the serviced or maintained item has been placed into service
- x) The contractor shall be held responsible or held liable for any defects arising from poor workmanship performed by their staff or use of inferior spare parts. The guarantee periods shall be:

Poor workmanship, within 48 hours period from time that the equipment is put into operation.

Inferior spares within a period of 6 months from time the equipment is put in service.

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## **2.6 Process for Monitoring**

- a) Plant Maintenance Orders
- b) Lift record books
- c) Callout reports for breakdowns

## **2.7 Related/Supporting Documents**

Not applicable

## **3. Scope of Work**

The contractor will be responsible for all Rack and Pinion Lifts at Kusile Power Station. He will ensure compliance to the O & M manuals requirements at all times. The lifts SOW will include but not be limited to the following:

### **3.1 Switchgear and Control Gear**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) External inspection
- c) Cleaning of switchgear, control panels and circuit breakers
- d) Cleaning of termination boxes and junction boxes
- e) Maintenance and testing of all limit switches and other sensing devices
- f) Maintenance of circuit breakers and contactors
- g) Maintenance of mechanical interlocking devices
- h) Maintenance of the buttons and displays
- i) Maintenance of all earthing
- j) Maintenance of cable terminations
- k) Maintenance of auxiliary components
- l) Maintenance of CT's and VT's
- m) Check that the emergency lighting is in order at all times
- n) Disconnect and reconnect electrical equipment - cables, switches etc.
- o) Ensure all hazardous location specifications are adhered to

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- p) Attend to breakdowns, defects, fault finding and carrying out repairs.
- q) Check and ensure that all wires, sealing glands and connections are correct and secure
- r) Ensure that the operation of the control system is correct and all the settings on all equipment are correct

### **3.2 Electrical Motors and Brakes**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) Repair and overhaul motors
- c) External inspections
- d) Testing of motors (winding resistance, insulation resistance and PI test)
- e) Test running of motors
- f) Ensure that the lift car stops within the acceptable limits
- g) Disconnecting and reconnecting of motors and brakes
- h) Clean the electric motor cooling flanges when necessary.
- i) Check motor overload protections are set as stated on the motor nameplate or datasheet supplied
- j) Maintenance of electrical terminations
- k) Ensure that the motor, end shields and covers are properly secured
- l) Maintenance and testing of brakes
- m) Maintenance of all earthing
- n) Clean motors, cooling flanges and brakes, check for mechanical damages
- o) Check and adjust brake lining as per O & M Manual
- p) Check to ensure the correctness of the brake torque with spring balance (ensure the stopping positions does not exceed stated values)
- q) Inspect centrifugal brake and adjust accordingly
- r) Lubricate all bearings and slide surfaces

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- s) Inspect, repairs and test control device's ball bearings
- t) Maintenance of auxiliary components
- u) Ensure all hazardous location specifications are adhered to
- v) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.3 Cabling and Earthing**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) Cable fault location
- c) Carry out cable joints according to regulations and O&M manuals
- d) Installing, replacing, repairing and terminations
- e) Maintenance of all earthing
- f) Testing and other required tests
- g) Maintenance of cableways and cable guides for debris
- h) Maintenance of cable supports and baskets and/or trolleys
- i) Maintenance of cable crunches, joints and glands
- j) Check all cables for wear and ensure that there are no kinks.
- k) Also check cable attachments and fixtures in lift mast.
- l) Disconnecting and reconnecting cables
- m) Ensure all hazardous location specifications are adhered to
- n) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.4 Domestic Circuits**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) Maintenance of distribution boards
- c) Maintenance of all 220V cables
- d) Maintenance of 220V sockets outlets

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- e) Check the function of all emergency indications (alarm, light and voice)
- f) Maintenance and testing of standby/emergency lighting
- g) Issuing of COC's
- h) Check and replace the corroded protection devices which are located inside the electrical panel
- i) Carrying out modifications on the existing system if required by engineering
- j) Statutory testing e.g. earth leakage testing
- k) Ensure all hazardous location specifications are adhered to
- l) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.5 Gearbox, Pinions and Racks**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) Maintenance of the gearbox and rack and pinion
- c) Check the oil levels and top-up if necessary to required levels
- d) Repair and overhaul of the gearbox
- e) External inspection
- f) Check for leaks and replace seals identified from inspection/services
- g) Ensure that all equipment is secured with all required bolts/nuts
- h) Ensure correct torques settings are used at all times
- i) Check and record wear on rack and pinion
- j) Check that all screw joints are properly tightened
- k) Ensure all hazardous location specifications are adhered to
- l) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.6 Pit and Landing Entrances**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy

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- b) Check functionality of the pit and shaft lights
- c) Ensure all necessary safety and emergency signage displayed and in good order
- d) Ensure the landing indication lights are working correctly
- e) Ensure landing call buttons are functional, if not they must be repaired
- f) Ensure area is clean and dry and free of debris
- g) Check that all entrance door guides are clean and clear of all debris
- h) Ensure all hazardous location specifications are adhered to

### **3.7 Lift Car**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) External inspection
- c) Lubrication of doors
- d) Ensure functionality of communication system/intercom inside lift car
- e) Ensure emergency contacts and numbers as well as safety signage is displayed and in good order
- f) Check functionality of the door system, also repair/adjust where necessary
- g) Check all electrical interlocks by making test runs with interlocks
- h) Check and repair all mechanical interlocks
- i) Check and repair all car, landing doors, mechanical lock/interlocks and ramp for wear
- j) Grease bearings and slide surfaces
- k) Maintenance of emergency lights and alarm system
- l) Maintenance of car buttons and key switches
- m) Ensure functionality of the car call buttons
- n) Check and repairs safety devices for wear and test
- o) Ensure doors lands level with the floor
- p) Ensure all hazardous location specifications are adhered to

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- q) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.8 Buffers**

- a) All maintenance as per O&M manuals and the Lift Maintenance Strategy
- b) External inspection
- c) Maintenance of the equipment
- d) Lubrication of the equipment
- e) Test for proper operation
- f) Ensure all hazardous location specifications are adhered to
- g) Attend to breakdowns, defects, fault finding and carrying out repairs

### **3.9 List of Lifts to be Maintained**

| <b>Description</b>  | <b>LOAD CAPACITY (KG)/<br/>No. OF PERSONS</b> | <b>Type of lift(all electrically<br/>driven)</b> | <b>Manufacturer</b> |
|---------------------|-----------------------------------------------|--------------------------------------------------|---------------------|
| U1 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| U2 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| U3 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| U4 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| U5 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| U6 ACC Lift         | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| Coal Silo No.1 Lift | 1000/13                                       | Rack and Pinion                                  | Alimak Hek          |
| Chimney East        | 1400/16                                       | Rack and Pinion                                  | Alimak Hek          |
| Chimney West        | 1400/16                                       | Rack and Pinion                                  | Alimak Hek          |

### **3.10 Conditions**

- a) Please note that the equipment will only form part of the works once the respective area has been commissioned and handed over to Eskom Generation.

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- b) The contractor carries out the work in accordance with the works order papers supplied to him and returns all necessary documents duly completed for entry into SAP PM Module for plant history.
- c) All stand-alone reports on the work done, tests performed or modifications carried out shall be submitted to the contract supervisor not later than 7 days after completion of the work.
- d) The contractor shall be responsible for assisting the Employer in the development of the Lifts preventative maintenance program. Such assistance will include the development of work instructions, Lifts maintenance frequencies and monitoring and inspection requirements.
- e) Lift maintenance procedures must be consistent with best practices and must be available in an accessible format on-site for and stored in SAP PM.
- f) The contractor will be responsible for:
  - i. Reviewing equipment requirements
  - ii. Leakage and spillage control.
  - iii. All statutory inspections, tests and services
  - iv. Modification suggestions to ensure safety of the lifts and people using them
  - v. Continuous costs reduction
  - vi. Equipment shall be certified in accordance with all relevant regulatory standards. These shall be inspected as per required before use
- g) The Contractor is to complement their services to improve Plant performance by:
  - i. Value engineering
  - ii. Procedure and documentation writing
  - iii. Design services
  - iv. Spares Management
  - v. Technical Advice
  - vi. Operational and production process review
- h) The contractor will be responsible for cleaning and checking the lift car roof and cabinets
- i) The works may include the use of hazardous substances during normal and routine maintenance activities.

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- j) The contractor will be responsible for all repairs of refurbishable items connected to this scope utilising the rotatable process in SAP. This shall include the repair of intercom systems
- k) The contractor will be requested to support the employer's personnel by providing cross sectional drawings and part numbers for stock identification. Subject to the employer's access control procedures, the contractor may be required to assist in checking stockholding.
- l) The contractor, in line with Kusile Power Station Lift Strategy recommends to the Employer the optimal spares that should be carried at Kusile Power Station and includes:
  - i. Spares required for maintenance
  - ii. Minimum number of spares kept for emergency
  - iii. Serviceability of spares in the stores
- m) The contractor must ensure that he maintains a 24hour standby roster at all times. Standby staff shall respond to call outs within a 2 hour timeframe.

The contractor shall make available a lift technician who will be stationed on site during the duration of maintenance outages to attend to all lift related issues.

- n) The contractor shall appoint a registered inspection service provider who shall inspect and test each lift at intervals not exceeding 24 months or shorter, according to an in-house risk assessment. The lift shall be inspected and tested;
  - i. After a modification has been effected on the lift
  - ii. After a failure has occurred
  - iii. Whenever there is a change in the lift service provider
- o) The lift inspector shall complete a comprehensive report for each lift and submit to the client within specified period in reference to the regulation
- p) And the contractor will be required to sort out all defects mentioned by the independent lift inspector within the specified period of the Annexure B certificate.

### **3.11 Continuous Improvement**

- a) The Contractor shall implement a program of continuous improvement to optimise Rack and Pinion Lifts performance and reduce system and equipment failure rates
- b) The Contractor shall participate in improvement programs and root cause investigations as stipulated by the employer.
- c) The contractor will participate in improvement programs pertaining to lift equipment.

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### **3.12 Management and Reporting**

- a) The Contractor will be responsible for implementing a performance management system consistent with the Employer's supplier management requirements.
- b) The performance indicators required will be jointly agreed by the Employer and the Contractor, typical performance indicators could include:
  - i. Lift plant and associated plant availability for each 12 months period (96%) which is in line with Kusile Power Station UCLF target.
  - ii. Compliance to the planned maintenance program (Compliance Date + 3 days)
  - iii. Safety related KPI's (e.g. DIIR)
  - iv. Report submission times (Completion Date + 7 days)
- c) The type of reports, level of detail 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.
- d) The penalty for not achieving the above requirement is a fine of R1 000 per day or part of a day that any Rack and Pinion lift is not available, work that goes over the target date +7 days or any report is not submitted beyond the above agreed targets.
- e) The course of action for not achieving the Safety Target is that, after 2 warning letters from the Employer, the Contractor or his personnel may be removed from site.
- f) The Contractor to be represented at any ad-hoc meetings that may arise in order to address any production or safety related matters.
- g) Liaison meetings shall be held with the Employer's Representative or his/her delegate on a monthly basis or when necessary to discuss any technical details, or concerns.

### **3.13 Quality and Documentation Control**

- a) The contractor will submit a QCP which will be overseen and approved by Eskom and will ensure that the relevant documentation is available on site to manage the lift scope and related programs.
- b) The Contractor to ensure that all measuring and test equipment is calibrated at all times & proof of calibration validity must be readily available.
- c) All Quality References and Standards applicable to this SOW will be adhered to.

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- d) The Contractor shall utilise the Employer's quality documentation management system and processes.
- e) The Contractor shall provide technical support for related service rendered.

### **3.14 Project Implementation**

The Contractor shall supply a project implementation plan including at least the following;

- a) Site establishment
- b) Manpower plan
- c) Organogram
- d) Skills required and associated cost per skill (e.g. artisan, site manager, etc.)

### **3.15 General**

- a) All works will be subject to anytime inspection from the employer.
- b) The contractor shall carry out all plant activities as per the Works Management Process.
- c) The contractor is to ensure that the work area is kept clean on completion of any work done.
- d) The contractor to execute the works within the times stipulated on the works order.
- e) The employer is to schedule all maintenance tasks in conjunction with the Eskom Works Management Process
- f) The contractor shall ensure that any witness, hold points are strictly adhered to.
- g) Before work starts on site, an inaugural meeting is held with the contractor and the employer, to explain in details all the requirements of the site regulations.
- h) The contractor is issued with a file of current site regulations on arrival. The file remains the property of the employer.

### **3.16 Communication and Correspondence**

- a) All correspondence includes:
  - i. Kusile Power Station
  - ii. Employer's Contract number

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- iii. Contract description
  - iv. Correspondence subject matter
  - v. Employer's name and contact details
  - vi. Contractor contact details
  - vii. Date
- b) Where appropriate the correspondence includes the Employer's reference and is delivered as a single package.
- c) All communications from the Contractor are numbered sequentially with a prefix as advised by the Employer. The Employer responds in like manner. The prefix and numbering system is decided upon at the Inaugural meeting.

### **3.17 Contractor's Organisation**

The contractor submits a project organogram to the employer for acceptance, indicating the contractor's and the sub-contractor's employees

### **3.18 Tender Requirements**

- a) A proposal is to be submitted by the tenderers for the above-mentioned scope of work.
- b) Hereafter a contract shall be negotiated with the successful Contractor.
- c) The appointment of a Contractor is at Eskom's (The Employer) sole discretion taking into account the factors which Eskom considers relevant.
- d) The Employer shall perform evaluation based on the criteria of commercial, financial and technical evaluation as per specific applicable enquiry document.
- e) The tender prices shall be completed as per the pricing structure.

### **3.19 Testing and Inspection Schedule**

The inspections and maintenance stipulated in the table below must be carried out at the time intervals as specified. The relevant readings and defects / notifications must be recorded in the lift record book and on the maintenance case history into the Eskom SAP system.

|   | <b>Inspection / Test</b> | <b>Action</b>                                 | <b>Frequency</b> |
|---|--------------------------|-----------------------------------------------|------------------|
| 1 | Gates and door lock      | Test gates and door locks at each examination | Monthly          |

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|    |                          |                                                           |                                         |
|----|--------------------------|-----------------------------------------------------------|-----------------------------------------|
| 3  | Safety Devices           | Tests safety devices                                      | Six Monthly                             |
| 5  | Buffers                  | Test buffers                                              | Two Monthly                             |
| 7  | Lift Car Roof Inspection | Inspect, clean controller, motors, generator and lighting | Monthly<br>Depending on site conditions |
| 8  | Communication systems    | Test telephones Intercoms systems and warning lights      | Not more than monthly intervals         |
| 9  | Rack and Pinion Gears    | Examine and inspect wear                                  | Monthly                                 |
| 10 | Emergency Lights         | Test for functionality                                    | Monthly                                 |
| 11 | General Safety Signs     | Visibility and condition                                  | Monthly                                 |

*\*All inspections and tests shall be recorded in the record book*

- a) These Tests and Inspections are to be done in according to the OHS Act: Lift, Escalators and Passenger Conveyor Regulations
- b) All documentation must be submitted according to the abovementioned Regulations

#### **4. Acceptance**

This document has been seen and accepted by:

| <b>Name</b>      | <b>Designation</b>                        |
|------------------|-------------------------------------------|
| Bongekile Makini | Electrical Maintenance Department Manager |
| Abel Vuma        | Maintenance Group Manager                 |
| Lelethu Thipa    | System Engineer                           |

#### **5. Revisions**

| <b>Date</b>  | <b>Rev.</b> | <b>Compiler</b> | <b>Remarks</b>                                                     |
|--------------|-------------|-----------------|--------------------------------------------------------------------|
| March 2024   | 5           | SS Mbatha       | Fourth review                                                      |
| March 2021   | 4           | LNN Sibiya      | Third review – Added some lifts and rev up document                |
| January 2019 | 3           | NP Ngwenya      | Second review- Removal of lifts and minor adjustments on the scope |
| January 2018 | 2           | LNN Mthombeni   | First Review - Expired<br>Update lift capacity                     |
| August 2015  | 1           | LNN Mthombeni   | First Issue                                                        |

#### **6. Development Team**

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

- Electrical Maintenance Department – Kusile Power Station

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## **7. Acknowledgements**

EMD – Medupi Power Station

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