

	Scope of Work	Kusile Power Station
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Title:	Kusile Power Station Electrical Lighting Spares Supply and Delivery	Document Identifier:	KUS-20240802
		Alternative Reference Number:	
		Area of Applicability:	Eskom Holdings SOC Ltd
		Functional Area:	PSCM
		Revision:	1
		Total Pages:	17
		Next Review Date:	Not Applicable
		Disclosure Classification:	Controlled Disclosure

Date:	Date:	Date:	Date:
.....			

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1. Introduction

Kusile Power Station management made a resolution to establish a long-term agreement for the supply of critical and operational plant spares. For the plant to operate effectively and efficiently, maintenance must be performed at intervals specified as per plant maintenance strategies. Correct plant spares must be always available. The identification of which specific components to be kept as spares as well as the quantities has been done according to the information available at the time of the compilation of this document.

The required information for spares holding has not been adequately detailed enough to enable the full cataloguing of the identified spares into the SAP computer data base. This creates challenges to the current and future procurement processes and may lead to costly delivery of wrongly specified equipment. The works information processes outlined in this document are intended to eliminate or minimize the risk of such occurrences.

2. Supporting Clauses

2.1 Scope

The Scope of Work technically specifies the required spares be supplied by the *Supplier* and conditions for acceptance. The scope included here does not substitute procurement procedures that will be followed during the procurement process.

2.1.1 Purpose

The purpose of this document is to ensure that all maintenance spares which are being procured by Kusile Power Station are correct and correctly specified.

2.1.2 Applicability

This scope is only applicable to Kusile Power Station.

2.1.3 Effective Date

This document will be effective from the date of its authorisation.

2.2 Normative/Informative References

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

2.2.1 Normative

[1] ISO 9001 Quality Management Systems

[2] 240-76960420 Guideline for Spares Procurement Technical Evaluation and Quality Inspection

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2.2.2 Informative

- [1] ISO 9000 Quality Management System – Fundamentals and Vocabulary.
- [2] 32-727 Safety, Health, Environment, and Quality (SHEQ) Policy.
- [3] Generation Plant Engineering Life Cycle Planning/Strategic Report for Direct Current Systems 2014: 474-10053

2.3 Definitions

Definition	Description
Supplier	Contractor contracted to provide a specific spares & documentation to Kusile Power Station
Employer	Eskom, Kusile Power Station
Employer Representative	Any person appointed in writing by Employer as the delegated Employer representative in terms of the provisions
Plant	Any structure, machinery, apparatus, or equipment which does not fall within the scope of the operating regulations for high voltage systems, and excludes, mobile, portable lifting equipment, domestic circuits' appliances, and tools

2.4 Abbreviations

Abbreviation	Explanation
BOQ	Bill of Quantities
DCF	Data Capturing Form
EMD	Electrical Maintenance Department
ITP	Item Test Plan
LV	Low Voltage
MV	High Voltage
MW	Mega Watt
OEM	Original Equipment Manufacture
PCM	Process Control Manual
PS	Power Station
PTM	Protection Testing and Metering
QC	Quality Check
QCP	Quality Control Plan
SAP	System Applications and Programmes Software
SOW	Scope of Work
UPS	Uninterrupted Power Supply
VSD	Variable Speed Drive

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2.5 Roles and Responsibilities

2.5.1 Supplier

- a) Provide a quotation for each listed item in Appendix A as part of tender deliverable.
- b) Supply procured spares as requested by the Employer.
- c) Provide technical support services as requested by the Employer.
- d) Confirm correctness of the supplied spares information.
- e) Provide spares technical information in accordance with this SOW.
- f) Timeously inform the Employer of any delays or when outstanding or additional information from the Employer is required.
- g) Timeously track the risk register and send to the *Employer* for record purpose.
- h) Responsible to ensure that a quality product is delivered.
- i) Responsible to ensure that the correct spare is supplied.
- j) Responsible to ensure that every effort is made to keep to the agreed spare delivery program and plan.
- k) Provide all required technical datasheets and/or product brochures.
- l) Provide Materials Management with populated DCFs for cataloguing of spares and record keeping.
- m) Conform to all the other requirements stipulated in this document.
- n) Supply all the necessary test sheets/results, where applicable.
- o) No spare will be accepted without datasheets.
- p) Invite the Employer or representative thereof three (3) working days in advance for witness/hold points, if applicable, as agreed.
- q) All Supplier employees entering site 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.
- r) Ensure that all staff brought onto site in connection with this SOW should be able to fluently speak, understand and write in English language.
- s) The Contractor ensures that all staff brought to Kusile PS site have a valid fitness certificate based on the specified plant man-job specification.

2.5.2 Employer: Technical Support & Engineering

- a) Compile and submit scope of work with technical specifications.
- b) Performs Quality Control of all spares on delivery at the Employer premises.
- c) Liaise with all relevant stakeholders for any input.
- d) Ensure that the Works Information is in accordance with Eskom policies and procedures.

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- e) Provide all necessary information to assist in spares and technical support services procurement.
- f) Participate in technical evaluation of the tender documents.
- g) Assist with the preparation of all the reports to different tender committees, where applicable.
- h) Provide technical assistance to Maintenance, Materials Management and Procurement Departments during the execution of this Works Information.
- i) Perform Quality Checks on procured spares and accompanying documentation.
- j) Verification and acceptance of all supplied documentation including DCFs.
- k) Responsible for QC at delivery of procured spares.
- l) Provide Materials Management with populated DCFs for cataloguing of spares and record keeping.
- m) Perform QC of spares at the OEM / *Suppliers* warehouse depending on the equipment/spare criticality

2.5.3 Employer: Materials Management

- a) Catalogue the spares after completion of DCFs.
- b) Confirm that the information supplied by the engineer is enough for cataloguing.
- c) Perform QC on all submitted DCFs.
- d) Make provision for storage of procured spares.
- e) Work together with engineering and maintenance when accepting spares into stores.
- f) Notify engineering and maintenance for spares that are ready for QC.

2.5.4 Employer: Procurement Department

- a) Perform all procurement processes outlined in this Works Information.
- b) Issue invitation to tender to the *Supplier*.
- c) Supply engineering with *Supplier* information for sole source justifications, where applicable.
- d) Set up clarification meetings between *Supplier* and *Employer*.
- e) Act as communication link between *Supplier* and *Employer*.
- f) Ensure all necessary payments are affected timeously and keep record thereof.
- g) Arrange technical evaluation sessions.
- h) Compile and present mandate to negotiate and arrange negotiation meetings when required and give feedback to relevant tender committee.
- i) Keep record of all tender documentation.

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2.5.5 Employer: EMD & PTM

- a) Perform inspections and QC on spares upon delivery.
- b) Ensure spare items are stored properly by Materials Management as per relevant storage recommendations by the respective manufacturers.
- c) Ensure Spares are used sparingly and appropriately for the duration of the contract.
- d) Perform QC of spares at the OEM / *Suppliers* warehouse depending on the spare criticality
- e) Ensure all datasheets are submitted and stored properly for record purpose.

2.5.6 Management and Reporting

- a) The Contractor to be represented at any ad-hoc meetings that may arise to address any scope and safety related matters. All meetings on shall be recorded using the Employer's attendance register and minutes taken. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the condition of contract to carry out such actions or instructions.
- b) Liaison meetings shall be held with the Employer's Representative or his/her delegate on as and when required basis to discuss any technical details, or concerns.
- c) For the duration of the contract the Contractor will provide a comprehensive rolling programme which will contain lead time durations, this will be used for ordering spares on time and such programme must be revised whenever necessary to contain relevant information and dates. The committed programmes must always be adhered to avoid application of penalties.

2.5.7 Meetings

Meetings will be convened and chaired by the service manager or an Eskom Senior employee as and when required, including the following:

Table 1: Meeting Schedule

Name	Frequency	Attendance by relevant Employer's personnel:	Attendance by relevant Contractor's personnel
Contract kick-off	Once- off	Service manager, plant supervisor/manager and/or other necessary representatives.	Site manager, site supervisor and/or other necessary representatives.
Early warning and defects	As and when notified by either party	Service manager and plant supervisor/manager and other relevant personnel.	Site manager and site supervisor/manager and other relevant personnel.

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Name	Frequency	Attendance by relevant Employer's personnel:	Attendance by relevant Contractor's personnel
Technical and/or nonconformance	As and when notified by either party	Service manager, plant supervisor and technical representative.	Site manager, site supervisor and technical representative
Contract risks	As and when notified by either party	Safety representative, service manager and plant supervisor and others involved	Safety representative, site manager and site supervisor and others involved.
Safety incident	For each occurrence	Safety representative, service manager and plant supervisor and others involved.	safety representative, site manager and site supervisor and others involved.

2.5.8 Communication and Correspondence

Correspondences shall be written formally on the letter head format of the organisation and addressed to the relevant person.

- a) All correspondence includes but not limited to:
 - i. Kusile Power Station.
 - ii. Employer's Contract number.
 - iii. Contract description.
 - iv. Correspondence subject matter.
 - v. Employer's name and contact details.
 - vi. Contractor contacts details.
 - vii. Date.
- b) Where appropriate the correspondence includes the Employer's reference and is delivered as a single package or as per the agreed contract terms.
- 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 are decided upon at the Inaugural meeting.

2.5.9 Quality and Documentation Control

- a) During the tender process a quality criterion will be defined that the Contractor must comply to.
- b) The Contractor shall ensure that any witness, hold, and inspection points are strictly adhered to.
- c) All Quality References and Standards as stipulated in this document will be adhered to.
- d) The Contractor to comply with the Employer's quality management system documentation and processes.

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2.6 Process for Monitoring

This document will be a once-off document to state the scope of work for the supply and delivery of Lighting Spares Contract.

2.7 Related/Supporting Documents

N/A.

3. Lighting Spares Scope of Supply

3.1 Plant Description

Kusile Power Station is a 4 800MW rated power station with each of the six (6) units rated at 800MW. The electrical plant is used to power and support the different processes in the generation of electricity. The electrical systems consist of Generator plant, electric motors (LV&MV), switchgear, VSDs and Soft Starter, UPS, and other backup systems, etc.

3.2 Description of the works

The works entails the supply and delivery of spares with technical specifications detailed in a spares list (BOQ) that is included herein and attached as Appendix A: Kusile Lighting Spares BOQ.

The following are the *Supplier's* requirements:

- a) 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 limited to, repairs and/or replacement of a defective or incorrect spare.
- b) The *Employer's* (i.e., Eskom Holdings SOC) acceptance of delivered spare/s does not absolve the *Supplier* of the liability to supply the correct and/or defect free spare.
- c) The *Supplier* may, at the *Employer's* discretion, be given access to the plant to verify the information of the installed spare.
- d) The spare must be the same (e.g., same Part Number) as specified on this works information and the part number will also be used to perform quality control checks.
- e) If *Supplier* is not the OEM, the *Supplier* must be certified by OEM to supply spares to ESKOM and shall provide the letter of proof thereof.
- f) The *Employer* may at his/her discretion make the *Employer's* Engineer or employees or *others* made available to the *Supplier* for the purpose of soliciting additional information or verifying information as the need arises.
- g) The *Supplier* will supply any additional information such as brochure, general arrangement drawing, test certificates, detailed specification, etc.
- h) The *Supplier* shall supply preservation and storage procedure(s) of spares to the *Employer* as part of the tender deliverables.

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- i) “Estimated Spare Quantities to be Procured over Five-Year Period”, indicated by the *Employer* in the Appendix A as one of the table subheadings, is the estimated number the *Employer* may require the *Supplier* to supply over the contract period. The *Supplier* may only supply the quantity as specified by the *Employer* in the specific order instruction.
- j) If deemed necessary, the *Employer* may subject the *Supplier* to a quality assurance assessment at the *Supplier's* or *sub-Supplier's* premises as part of the technical evaluation or before the contract placement or at any time during the contract period.
- k) Complete price breakdown must be supplied with the quotation and must include the cost of transport to Kusile Power Station. The quotation will be based on items listed in Appendix A and there should be a similar one compiled for populating the items' individual DCF's. Methodology use to quote for transportation of procured items should be defined and quantified.
- l) Spares will be opened for inspection, counting and quality control check at the *Employer's* stores.
- m) The *Employer* has provided the Bill of Material table and copies of individual spares DCF's to assist the *Supplier* to meet the requirements of the Work to be performed by the *Supplier*.
- n) Where the DCF has already been fully or partially populated by the *Employer*, the *Supplier* shall verify the correctness of the information and complete partially populated DCF's.
- o) The *Employer* may make clarification sessions available to either prospective *Supplier(s)* to further assist the prospective *Supplier/s* to meet the requirements of the Work to be performed by the *Supplier*.

Where the *Employer* has entered into a National Framework agreement for the supply of any listed items in Appendix A before this contract is in place, those items shall not form part of the contract.

The following items will be required as tender deliverables and the *Supplier* shall be evaluated on them:

- a) Use Appendix A to compile a quotation for the tendered items/components. A similar table shall be developed by the *Supplier* to supply quotation for populating individual DCF's. The quotation should include transportation costs as stipulated above.
- b) Confirmation that the *Supplier* is the original manufacturer or approved distributor of the items tendered for. Confirmation should be provided in written correspondence or certification of approval as a distributor.
- c) Confirmation that the items to be supplied will be the same as the items listed in Appendix A. Items different from the required spares will only be accepted where the item is approved similar. The *Supplier* must inform the *Employer* in writing as part of the tender deliverables to indicate proposed alternative spares. The *Employer* to be provided with all technical information on the proposed alternative spare to approve the alternative spare as acceptable. Similar spares to be interchangeable with original spares and any modifications required when installing the alternative spare to be indicated to the *Employer*.
- d) Confirmation that the *Supplier* will populate all DCF's for the tendered items. In instances where not all fields of the DCF can be populated, the *Supplier* shall request the *Employer* for approval to submit an incomplete DCF. The *Employer* reserves the right to reject any populated DCF if the information is not deemed sufficient. More details required with the DCF's are outlined in section 4.2 below.

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- e) The *Supplier* shall supply the preservation procedures for all the items tendered for. These shall include handling, storage, and transportation procedures. Group preservation of similar items is acceptable. The procedures may be supplied after order placement. However, confirmation must be provided as a tender deliverable.
- f) The *Supplier's* proven track record in supplying listed items or similar items shall be sourced to ensure that the *Supplier* can supply the items. It is also required that there be technical expertise on the said components to ensure proper diagnosis of any faults that may be experienced on the tendered components.
- g) *Supplier* to notify the *Employer* about the warranty periods for all tendered components/items and the time it will take to deliver the items from the date of order placement.
- h) *Supplier* to provide data sheets for all tendered spares as part of the tender documentation. The data sheets to be comprehensive enough to give all relevant information that describe a product. The *Supplier* shall provide shelf-life duration for all tendered items.

3.3 Documentation

The following are the *Supplier's* requirements:

- a) The *Supplier* will supply any additional information such as brochure, general arrangement drawing, certificates, detailed specification, data sheet, Settings Document for programmable electronic cards etc.
- b) The *Supplier* provides the *Employer* with additional spares information and verifies information required in the attached data capturing forms (DCF).
- c) The *Supplier* shall supply preservation and storage procedure/s, where applicable.
- d) The *Employer* may make clarification sessions available to either prospective *Supplier/s* to further assist the prospective *Supplier's* to meet the requirements of the supply scope delivered by the *Supplier*.

3.4 Acceptance of Spares

3.4.1 Spares Identification

Appendix A herein and attached to this document is a list all the spares to be procured under this SOW. This list corresponds to the provided electronic copy of the DCF's or SAP Specification Printout that contain more information about the required spares. Each spare is identifiable by means of an Eskom SAP Material number (as is used in the Power Station), part description, OEM and/or OEM part number.

3.4.2 Obsolescence

- a) The *Supplier* shall inform the *Employer* immediately where spares are found to be obsolete before the alternative spares is supplied.
- b) b. The *Supplier* shall indicate this to the *Employer* and indicate viable alternatives thereof.
- c) The *Employer* will review the alternatives and advice on the acceptance/rejection of the alternative thereof prior to the spares being delivered onsite.

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3.4.3 Spares Quantities

The estimated spares quantities to be provided as stipulated in APPENDIX A

3.4.4 Design, Manufacturing and Testing

Unless an alternative spare is proposed the required spares shall be the same, in all respects, as the original components. The spares shall also conform to the same specifications as the original components. This includes all aspects such as design, materials and material specifications, manufacturing and manufacturing processes, testing, and operating and storage specifications.

3.4.5 Replacement Parts Upgraded/modified.

Where equipment or spares, including the whole assembly, have been upgraded/ modified the *Supplier* shall indicate this to the *Employer* as part of the tender. The *Employer* shall be made aware immediately where the upgrade/modification to the component is only identified after the tender being issued. The detailed compatibility to the existing component shall be indicated including changes required to fit the upgraded/modified spare. This includes hardware, firmware, and software upgrade/modification. Approved alternative components shall be accepted provided they comply to all technical & commercial requirements.

If the components to be supplied will be obsolete, or envisaged to be obsolete, in the 3 years after tender being issued, the *Supplier* shall indicate this to the *Employer* and indicate viable alternatives thereof.

3.4.6 Packaging

- a) All supplied spares shall be packaged in such a manner that they will be transported and stored without damage. This includes preventing damage due to moisture ingress, dust, and foreign objects. The Kusile Power Station Lighting Spares Preservation shall be used in addition to the Contractor Transportation and Storage procedures.
- b) Different spare types shall be packaged separately such that each spare type can be stored separately. Packaging shall be such that the spare can be identified without opening the packaging. Packaging shall be of material that will not be damaged, to an extent possible, by harsh weather conditions during transportation. If that is not possible, then the packaging shall be protected against such conditions.
- c) Where possible, packaging to be such that procured spares can be positively identified through the packaging. Where this is not possible, the packaging to be such that it allows opening and closing of packaging and still maintain the packaging integrity thereafter.
- d) Delivery packaging shall include as a minimum the following details:
 - i. Purchase Order Number
 - ii. Part Description
 - iii. Part number
 - iv. Eskom SAP Material number
 - v. Drawing number, where applicable
 - vi. Physical address of Kusile Power Station and the *Supplier*

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- vii. Contact details of the *Supplier*
- viii. Delivery notes number

3.4.7 Transportation

Transportation of all spares shall be conducted with due regard of the sensitivity of the units and in such a manner that spares are suitably protected. All possible care must be taken to ensure that the components are not subjected to undue rough handling, vibration, humidity, excessive temperatures, or abuse. When courier service is used for transportation, the courier services service provider shall be alerted to the nature of the content of the packages and instructed to handle with care. Labels shall be used to indicate the fragile nature of the items.

3.4.8 Quality Control of Spares

- a) No incorrect, damaged, or faulty spares will be accepted.
- b) All the spares will be inspected before payment can be processed.
- c) Eskom template Data capturing forms information must be supplied and must meet an acceptable level. (All Mandatory Fields must be completed in full)
- d) Where applicable; test certificates, material certificate, manuals, data sheet, electronic cards programmed certificates and signature shall be provided.
- e) No spares will be accepted without specified documents.

3.4.9 Information to be provided to the Supplier.

The *Supplier* may be provided with either complete, partially complete, or uncompleted electronic Data Capture Form (DCF) for each spare required. The *Supplier* is required to ensure that the correct information is captured on the DCF's by either reviewing the information, completing the missing information, and completing a new DCF depending on action required.

The DCF's are required by the Purchaser's Material Management System to be able to book the item in the store. the information should also be sufficient to procure the correct spares in future. Most of the DCF's have been populated by the *Purchaser* where information was available. This information may not be correct and needs to be reviewed and verified/corrected as part of the *Services*.

The DCF's may be provided in Microsoft Word format. The *Supplier* needs to ensure the 'Track Changes' function is selected 'on' so that any changes to the existing information as well as inserted information can easily be identified and tracked. The following information needs to be to be provided as detailed as possible on the DCF's.

- a) Verify the existing information that is already populated on the DCF's and make changes where required. Ensure the 'track changes' function is on.
- b) Populate/verify all mandatory fields on the DCF's.
- c) Supply additional information in the field "Free Format Text" or "Purchase order text" on the DCF's. This includes:
 - The standards or specification that the product must conform to.

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- Add any spares information which has been omitted, which is deemed relevant for spares identification, packaging and protection requirements during transportation and storage.
 - The Quality Control requirements for manufacturing and testing of the product to ensure that the spares conform to the correct specifications or standards, including certificates and test results, that is required with delivery of the goods.
- d) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation, and utilisation of spares where applicable. Such information includes brochures, technical data, etc. These DCF's with the added information needs to be made available electronically to the employer.
- e) Supply any other additional information that has not been specified on the DCF's but necessary for storage, preservation, installation, and utilisation of spares where applicable. Such information includes brochures, technical data, etc.

3.4.10 Guarantee of delivered spares.

All delivered spares shall come with an at least 12-months guarantee period starting from the *delivery date*.

3.4.11 Insurance of the Goods

Insurance to be the responsibility of the *Supplier* until *delivery date*.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
	Electrical Engineering Manager
	Electrical Maintenance Manager
	Stores Manager
	Electrical Senior Technologist
	MM Supervisor
	Officer Procurement
	Maintenance Senior Advisor

5. Revisions

Date	Rev.	Compiler	Remarks
August 2024	1		First Issue

6. Development Team

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

- Tsholofelo Seloro

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7. Acknowledgements

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Appendix A – Kusile Lighting Spares BOQ

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