	Works Information	Kriel Power Station
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Title: **Kriel Power Station Outside
Plant Electrical Spares
Procurement Works
Information**

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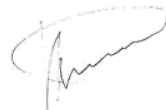
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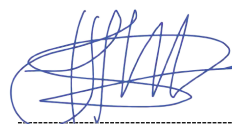
**Functional
Responsibility**



L.C. Tsumane
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Date: 23.09.2021

Authorized by



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Date: 2021/10/05

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1. Introduction

The Kriel Power Station LV Common Plant Switchgear and Control gear are in a terrible state and susceptible to component failures. These components are components of different brands to keep the plant running. The Common plant switchgear supply critical systems like dry-dust conveyor system, water plant, ash conveyor and coal conveyor which are necessary for maintaining continuous operation of the Station. The major electrical spares required are for the loads on the following systems:

- 6A-6G Incline coal conveyor and Coal plant South and North boards
- Water plant LV boards 1A, 2A, 1B and 2B
- Main Silo boards 1A, 2A, 1B and 2B
- Demin & CP plant board 1 and 2

Without these plants running due unavailability of spares, production would halt. Other outside plant electrical boards forms part of spares requirement for maintenance purpose.

The system downtime depends on how soon one identifies the problem (that is, troubleshooting ability) and the availability of replacement spare components in case of a failure of component installed in the either at the equipment or server room. Replacement spares are thus required to ensure that system deterioration, defects and failures are timeously rectified through the guaranteed and optimised spares stock holding.

This document will outline the works information for the procurement of spare components of the above mentioned for 5 years. This will include, but not limited to, the scope for supplying spares technical information and supply of spares. The scope covered is for the supply of various spares for outside plant electrical system.

2. Supporting Clauses

2.1 Scope

The Works Information specifies the required spares, quantities of spares to be supplied by the *Supplier*/OEM and conditions for acceptance for period limited to **5 years**. 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 formally request the *Supplier* to supply spares and ensure that all maintenance spares which are being procured by Kriel Power Station are correct.

2.1.2 Applicability

This scope is only applicable to spares procurement of Kriel power station outside plant electrical switchgear components or sub-components.

2.1.3 Effective date

This document shall be effective from the 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.

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2.2.1 Normative

- [1] ISO 9001 Quality Management Systems
- [2] 240-76960420 Guideline for Spares Procurement Technical Evaluation and Quality Inspection.
- [3] 32-1033 Eskom Procurement and Supply Chain Management Policy.
- [4] 32-1034 Eskom Procurement and Supply Chain Management Procedure.
- [5] 474-132 GBE Plant Engineering Baseline Change Management.

2.2.2 Informative

2.3 Definitions

2.4 Abbreviations

Abbreviation	Explanation
AC	Alternating Current
DCF	Data Capturing Form
ACB	Air Circuit Breaker
OEM	Original Equipment Manufacturer
RFx	Request for Proposal, Information, Quotation
RFQ	Request for Quotation
QC	Quality Control
SHEQ	Safety, Health, Environment and Quality
WI	Works Information
CT	Current Transformer
DC	Direct Current
LV	Low Voltage
MV	Medium Voltage
MCCB	Moulded-Case Circuit-breaker
MSB	Motor Start Breaker

2.5 Roles and Responsibilities

Supplier

- Supply procured spares as requested by the *Employer*
- Confirm correctness of the supplied spares information
- Provide spares technical information in accordance with this Works Information
- Timeously inform the *Employer* of any delays or when outstanding or additional information from the *Employer* is required
- Responsible to ensure that a quality product is delivered

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- Responsible to ensure that every effort is made to keep to the agreed program and plan
- Provide all required technical datasheets and/or product brochures for all the spares supplied
- Conform to all the other requirements stipulated in this document
- Supply all the necessary test sheets/results, where applicable
- Invite the *Employer* or representative thereof three (3) working days in advance for witness/hold points, if applicable, as agreed

Engineer

- Provide input and compile this Works Information
- Liaise with all relevant stakeholders for any input
- Ensure that the Works Information is in accordance with Eskom policies and procedures
- Provide all necessary information to assist in spares procurement
- Participate in technical evaluation of the tender documents
- Assist with the preparation of all the reports to different tender committees, where applicable
- Provide technical assistance to Materials Management and Procurement Departments during the execution of this Works Information
- Perform Quality Checks on procured spares and accompanying documentation
- Provide Materials Management with fully populated DCFs for cataloguing of spares and record keeping
- Verification and acceptance of all supplied documentation
- Responsible for QC at delivery of procured spares

Materials Management

- Catalogue the spares after completion of DCFs
- Confirm that the information supplied by the engineer is enough for cataloguing
- Perform QC on all submitted DCFs
- Make provision for storage of procured spares
- Work together with engineering when accepting spares into stores

Procurement

- Perform all procurement processes outlined in this Works Information
- Issue RFQ's and/or RFI's for the procurement of spares
- Supply engineering with *Supplier* information for sole source justifications, where applicable.
- Set up clarification meetings between *Supplier* and *Employer*
- Act as communication link between *Supplier* and *Employer*
- Ensure all necessary payments are effected timeously and keep record thereof
- Arrange technical evaluation sessions
- Compile and present mandate to negotiate and arrange negotiation meetings if and when required and give feedback to relevant tender committee

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- Keep record of all tender documentation

Maintenance

- Perform inspections and QC on spares upon delivery
- Ensure spare items are stored properly by Materials Management as per relevant storage recommendations by the specific manufacturers

2.6 Process for Monitoring

Not Applicable

2.7 Related/Supporting Documents

3. WORK TO BE PERFORMED BY SUPPLIER

The following are the *Supplier's* requirement:

- 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 as a result of a defective or incorrect spare.
- The *Employer's* (i.e. Eskom Holdings SOC) acceptance of delivered spare/s does not absolve the *Suppliers* of the liability to supply the correct and/or defect free spare.
- The *Supplier* may, at the *Employer's* discretion, be given access to the plant to verify the information of the installed spare.
- The spare must be exactly the same (i.e. same Part Number) as specified on this works information and the part number will also be used to perform quality control checks. ***Notwithstanding the stipulated condition that the Supplier is responsible for verifying the correctness of spares information provided by the Employer in relation to the existing installed spare. This may include the Supplier consulting the original supplier of the spare to ensure correctness of information provided by the Employer.***
- The *Employer* may at his/her discretion make the *Employer's* Engineer or employees or *others* available to the *Supplier* for the purpose of soliciting additional information or verifying information as the need arises.
- The *Supplier* will supply any additional information such as brochure, general arrangement drawing, certificates, detailed specification, etc.
- The *Supplier* provides the *Employer* with additional spares information and verifies information required in the attached data capturing forms (DCF) at least three months after order placement or conclusion of the contract or (where lead time is less than three months) a week before delivery of respective spare.
- The *Supplier* shall supply preservation and storage procedure/s, where applicable.
- The Spares Procurement limit over five (year) period, indicated by the Employer in the attached table as one of the subheadings, is the maximum number the *Employer* may require the *Supplier* to supply over the contract period. However the *Supplier* may only supply the quantity as specified by the *Employer* in the individual order instruction and does not imply that the Supplier is entitled to supply the total number indicated in the Spares Procurement Limit over five (year) Period.
- The *Employer* reserves the right to exclude the supply of some spares items included in the contract with the Supplier should the *Employer* become aware that National Supply Contract exists or is placed by the *Employer* with Others in respect to those specific spares items.

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- 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.
- Where the spare requires testing, the *Supplier* will inform the *Employer* to invite or make available the *Employer's* System Engineer to witness the tests.
- Should the *Employer* be dissatisfied with all or certain aspects relating to a specific spare tests (including but not limited to suspected inferior quality or non-compliance) the *Supplier* will make good, rectify the faults or supply a new spare at his/her cost.
- Complete price breakdown must be supplied with the quotation and must include the cost of transport to Kriel Power Station. However, the *Employer* reserves the right to use the *Employer's* own transport.
- Spares will be opened for inspection, counting and quality control check at the *Employer's* stores.
- The *Employer* has provided the Bill of Material table and copies of individual spares DCF's in order to assist the *Supplier* to meet the requirements of the Work to be performed by the *Supplier*.
- The *Employer* may make clarification sessions available to either prospective *Supplier/s* in order to further assist the prospective *Supplier's* to meet the requirements of the Work to be performed by the *Supplier*.
- The *Employer* reserves the right to exclude the supply of some spares items included in the contract with the *Supplier*, should the *Employer* become aware that the National Supply Contract exists or is placed by the *Employer* with others in respect to those specific spares items.

3.1 SPECIFICATIONS OF THE SPARES

3.2 SPARES IDENTIFICATION

Appendix A lists all the spares to be procured under this works information. This list shall correspond to the provided hardcopy DCF's that will contain more information about required spares. Each spare is identifiable by means of component/part description, OEM and/or OEM part number. Where the information available on the spares list in Appendix A or that supplied by materials management as catalogued is not sufficient to positively identify the applicable spare, the *Supplier* shall notify the *Employer* such that the *Employer* can assist the *Supplier* in identifying the correct spare.

The spares to be provided to be the same as the original component, in all technical respects, as those utilised on the equipment it is intended for. This includes, but is not limited to, design (including dimensions and material specifications) and manufacturing (including manufacturing processes, standards and acceptance testing).

The *Supplier* shall be liable to replace a supplied spare that is found to be defective and/or wrong.

3.3 INFORMATION TO BE PROVIDED

Accompanying this Works Information is the DCF's with the information deemed enough to procure the correct spares as required. The DCF is required by the *Employer's* Material Management System to be able to book the item in the stores and the information should be sufficient enough to procure the goods in future. Where a field is populated, the *Supplier* needs to review and verify/correct the information against the OEM part number for correctness.

The following information to be provided with the spares:

- Documentation detailing the technical characteristics of the procured spare item. This may be in the form of data sheet or brochure. The *Employer* reserves the right to reject the documentation if it is not deemed sufficient

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- Any other additional information that has not been specified on the DCF / WI but necessary for storage, installation and utilisation of spares where applicable
- Supply preservation and storage procedures of goods, where applicable
- Any spares information which has been omitted which is deemed relevant for spares identification, storage, maintenance, etc.
- In instances where the *Supplier* uses another company, other than the item OEM, to provide required information, this to be declared in advance to the *Employer*

3.4 SPARES QUANTITIES

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

3.5 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 subsequent to the tender being issued. The detailed compatibility to the existing component shall be indicated. This includes hardware, firmware and software upgrade/modification.

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

3.6 PACKAGING

All supplied spares shall be packaged in such a manner that they may be transported and stored for an extended period of time without resulting in damage to the packaged components. This includes preventing damage due to moisture ingress, especially for electronic components. Where possible, silica gel/desiccant may be included to ensure protection against moisture for at least 3 months. However, this inclusion should not lead to damage to the component.

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.

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.

Delivery packaging to have the following details on it:

- Order number
- Physical address of Kriel Power Station
- Delivery note number

3.7 EXCLUSIONS

The following shall be noted as exclusions as per this works information:

- The *Supplier* shall not supply offloading facilities during delivery of spares

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- The *Supplier* shall not be responsible for the storage of spares after acceptance at delivery by *Employer*
- Subcontracting shall not be permitted, unless declared and accepted prior to contract placement

3.8 ACCEPTANCE OF SPARES

- No incorrect, damaged or faulty spares will be accepted.
- All the spares will be inspected before payment could be processed.
- Data capturing forms information must be supplied and must meet an acceptable level.
- Where applicable; test certificates, material certificate, manuals, data sheet and signature shall be provided as required.
- The *Supplier* must provide references of the companies that they have supplied similar spares to, and include the respective supply order/contract value, the contact name, physical address and telephone number.

3.9 CONSTRAINTS ON HOW THE *SUPPLIER* PROVIDES THE GOODS

3.9.1 WORK TO BE DONE BY THE DELIVERY DATE

A clarification meeting to be held 3 weeks subsequent to the issuing of the enquiry to confirm the scope of the Works and to confirm spares identification. All questions can be forwarded to the *Employer* during this meeting. Where more than one *Supplier* is available, all responses from the *Employer* will be forwarded to all *Suppliers*, regardless of which *Supplier* required the clarification.

All required spares to be delivered to the *Employer* 4 weeks from the day the purchase order is placed by the *Employer*. In instances where design reviews are necessitated, the 4 weeks will be from the day of design freeze. The *Employer* may request, in writing, that a spare be expedited quicker if its delivery in 4 weeks may lead to a delay that may result in undesirable consequences (loss of production, loss of revenue and/or safety to personnel or environment) to the *Employer*.

3.9.2 DOCUMENTATION CONTROL

The information for spares to be provided will either be in electronic format or hard copy. Other information provided with each spare to be either in electronic format or hard copy. Information provided to be documented in such a manner that the information for each spare will be easily identifiable. All documentation supplied shall bear the OEM's official name and logo.

3.9.3 QUALITY ASSURANCE REQUIREMENTS

The spares to be provided shall conform to all quality assurance requirements that will be defined at contracting phase.

3.9.4 PROGRAM CONSTRAINTS

The following shall be included in the *Supplier's* program:

- The delivery date as stipulated to be provisional. This date may change prior to delivery. The *Supplier* to indicate standing time and storage costs should the *Employer* delay the delivery date. Proof of actual costs to be provided.

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- Provision to be made for delays that may be caused owing to items being sourced from outside The Republic of South Africa.

3.9.5 INSURANCE OF THE GOODS

The Insurance of spare components is the responsibility of the *Supplier* until delivery and acceptance by the *Employer*.

3.10 SHEQ

The *Employer* reserves the right to request certification from the *Supplier* that proves compliance to relevant SHEQ legislations, standards and procedures. If, during procurement, the *Supplier* is found guilty of contravention of any SHEQ legislations, the *Employer* shall, at *Employer's* discretion, cancel the contract and the *Supplier* shall be liable to all the costs incurred therein.

4. Acceptance

This document has been seen and accepted by:

Name	Designation
Harry Mokabane	Acting Group Engineering Manager
Kgosi Ntsheroa	Electrical Maintenance Manager
Mavis Mutheiwana	Procurement Manager
Liphapang Tsumane	Electrical Plant Engineering Manager
Mokete Malefane	Materials Management Manager

5. Revisions

Date	Rev.	Compiler	Remarks
September 2021	1	G.T. Mthombene	New document

6. Development Team

Not Applicable

7. Acknowledgements

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Appendix A

Spares List

Sub-System	Description	Stock No.	Current Manufacturer or Supplier	Revised Minimum Stock Holding	Revised Maximum Stock Holding
CT: Instrument	CT:INSTRUMENT	0130143		3	10
CT: Instrument	CT:INSTRUMENT;0.5-3 KV	0129265		3	10
CT: Instrument	CT:INSTRUMENT;0.66 KV;10 VA	0130139		2	5
CT: Instrument	CT:INSTRUMENT;0.66 KV;ENCAPSULATED	0130174		2	8
CT: Instrument	CT:INSTRUMENT;220 V	0134452		2	5
CT: Instrument	CT:INSTRUMENT;600 V;1:1;PRIMARY	0238465		2	5

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CT: Instrument	CT:INSTRUMENT;600 V;10:1;PRIMARY	0238474		2	10
CT: Instrument	CT:INSTRUMENT;600 V;125:1;SMALL RING	0238478		2	5
CT: Instrument	CT:INSTRUMENT;600 V;2:1;PRIMARY	0238472		2	5
CT: Instrument	CT:INSTRUMENT;600 V;20:1;PRIMARY	0238475		2	10
CT: Instrument	CT:INSTRUMENT;600 V;25:1;PRIMARY	0238468		2	10
CT: Instrument	CT:INSTRUMENT;600 V;250:1;SMALL RING	0238437		2	10
CT: Instrument	CT:INSTRUMENT;600 V;40:1;PRIMARY	0238477		2	10
CT: Instrument	CT:INSTRUMENT;600 V;5:1;PRIMARY	0238473		2	10
CT: Instrument	CT:INSTRUMENT;600 V;50:1;PRIMARY	0238469		2	10
CT: Instrument	CT:INSTRUMENT;600 V;75:1;SMALL RING	0238441		2	10

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1CT: Instrument	CT:INSTRUMENT;PRIM 420 V; SEC 1.425 KV	0130101		1	2
CT: Instrument	WIRE MM2;BLUE;CU ELECT:INSTRUMENT;0.2	0144776		1	1
CT: Instrument	WIRE MM2;YELLOW ELECT:INSTRUMENT;0.2	0144781		1	1
Contactor	BOX,SPREC/SCHUH CONTACTOR CA1-25	142913	Sprecher & schuh	1	3
Contactor	COIL ELECT:110 VAC;CONTACTOR	130120	Cutler hummer	1	3
Contactor	COIL ELECT:110 VDC;CONTACTOR	129268	Cutler hummer	1	3
Contactor	COIL VAC;CONTACTOR ELECT:3TY1-223-0Q;380	130127		1	1
Contactor	COIL ELECT:AC1-10;120 VDC;CONTACTOR	130131	Sprecher & schuh	4	8
Contactor	COIL ELECT:CA1-100;220 VAC;CONTACTOR	130114	Sprecher & schuh	1	3
Contactor	COIL VAC;CONTACTOR ELECT:LX1D-09042;42	128969	Telemechanic	1	5
Contactor	COIL ELECT:LX1FJ220;MAIN CONTACTOR	129329	Telemechanic	1	1

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Contactor	CONTACTOR:100-B180NA3;CONTROL;600 VAC	142910	Allen Bradley	1	3
Contactor	CONTACTOR:100-C16F10;MOTOR;380/400 VAC	142908		1	3
Contactor	CONTACTOR:104174CL04A310MN;380/500 VAC	237426	GE	2	5
Contactor	CONTACTOR:104213CL06A300MJ;380/500 VAC	237425	GE	2	5
Contactor	CONTACTOR:104479CK85BE311N;CONTRO L;3	237422	GE	2	5
Contactor	CONTACTOR:104614CK95BE311N;CONTRO L;3	237421	GE	2	5
Contactor	CONTACTOR:112139CL07E300MN;CONTRO L;3	237416	GE	2	5
Contactor	CONTACTOR:112159CL09E300MN;CONTRO L;3	237415	GE	2	5
Contactor	CONTACTOR:112344CL25A310TN;CONTRO L;3	237414	GE	2	5
Contactor	CONTACTOR:112697CL25A310T3;CONTROL ;3	237413	GE	2	5

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Contactor	CONTACTOR:133286CK10CE311N;CONTRO L;3	237420	GE	1	5
Contactor	CONTACTOR:3RT1036-1AP00;MAIN;380 VAC	501002		1	5
Contactor	CONTACTOR:3RT1016-1AP01, 220VAC	125802		1	5
Contactor	CONTACTOR:3RT1016-1BB41, 400VAC	611497		1	5
Contactor	CONTACTOR:3RT1024-1AP00, 600VAC	125803		1	5
Contactor	CONTACTOR:3RT1065-6AP36,Motor 400VAC	246504		1	5
Contactor	CONTACTOR:3RT1065-6LA06,Motor 600VAC	142925		1	5
Contactor	CONTACTOR:3TB4222-0FA,Motor 600VAC	142914		1	5
Contactor	CONTACTOR:3TF4222-OAMO,Motor 220VAC	142921		1	5
Contactor	CONTACTOR:3TF4822-OAFO,Motor 600VAC	127789		1	5
Contactor	CONTACTOR:3TF5622-OAMO,Control 660VAC	126974		1	5
Contactor	CONTACTOR:3TF6844-OAMO,Control 660VAC	125807		1	5
Contactor	CONTACTOR:3TH4271-OAP0,Control 220VAC	130142		10	40

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Contactor	CONTACTOR:453-1069-5;Control 110VAC	127798		1	3
Contactor	CONTACTOR:A110-30-11;MOTOR;600 VAC;3	127793		1	3
Contactor	CONTACTOR:B16-30-10;220 VAC;28 A;2NO 2NC	127675		1	3
Contactor	CONTACTOR:CA2DN31B5;CONTROL;500 VAC;6 A	142508		1	3
Contactor	CONTACTOR:CA3-72-11;MOTOR;600 VAC;72 A	127795		1	3
Contactor	CONTACTOR:CA3-DN22;CONTROL;110 VDC;10 A	183944		1	3
Contactor	CONTACTOR:CA5-550;480 VAC;110 VDC;3	127667		1	3
Contactor	CONTACTOR:CLO7A311MN10424N;MAGNE TIC;3	215467		1	3
Contactor	CONTACTOR:CLO9A311MN10428N;MAGNE TIC;3	215468		1	3
Contactor	CONTACTOR:CN1DB133;MOTOR;380/500 VAC;3	139068		1	3
Contactor	CONTACTOR:CONTROL;220/660 VAC;110 VAC;4	128544		1	3

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Contactor	CONTACTOR:CONTROL;220/660 VAC;110 VAC;8	125964		1	3
Contactor	CONTACTOR:CONTROL;220/660 VAC;220 VAC;3	142909		1	3
Contactor	CONTACTOR:CONTROL;230/660 VAC;110 VAC;4	128543		1	3
Contactor	CONTACTOR:CONTROL;380/440 VAC;25 A;3	226216		1	3
Contactor	CONTACTOR:CRANE;500 VAC;380 VAC;30 A;3	142907	Klockner Moeller	1	3
Contactor	CONTACTOR:CRANE;600 VAC;380 VAC;80 A;3	142906	Klockner Moeller	1	3
Contactor	CONTACTOR:DIL-00L-22D;CONTROL;380 VAC	127779		1	3
Contactor	CONTACTOR:EH100;MOTOR;600 VAC;220 VAC;3	130128		1	1
Contactor	CONTACTOR:IOR260220AMA;DC CONTROL;500 V	129474	ABB	1	4
Contactor	CONTACTOR:KC22E22V;CONTROL;240 V;220 VDC	142403		1	2
Contactor	CONTACTOR:LC1 F265;MOTOR;600 VAC;220 VAC	125759	Telemechanic	1	3

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Contactor	CONTACTOR:LC1-D18S5;380 VAC;500 VAC;22 A	125763	Telemechanic	1	3
Contactor	CONTACTOR:LC1-D25Q7;CONTROL;380 VAC;3	142448	Telemechanic	1	3
Contactor	CONTACTOR:LC1-D6511;MOTOR;380 VAC;80 A	142447	Telemechanic	1	3
Contactor	CONTACTOR:LC1-D8011-Q5;MOTOR;440/600 VAC	127810	Telemechanic	1	3
Contactor	CONTACTOR:LC1D4011M5;MOTOR;600 VAC;60 A	125774	Telemechanic	1	3
Contactor	CONTACTOR:LC1D5011M5;MOTOR;380/415 VAC	125760	Telemechanic	1	3
Contactor	CONTACTOR:LC1F185;MOTOR;600 VAC;220 VAC	125770	Telemechanic	1	3
Contactor	CONTACTOR:LC1F265;MOTOR;600 VAC;110 VDC	127712	Telemechanic	1	3
Contactor	CONTACTOR:LC1FJ43M;MOTOR;600 VAC;220 VAC	125772	Telemechanic	1	3
Contactor	CONTACTOR:LC2-D25-01-M5;MOTOR;600 VAC	125766	Telemechanic	1	3

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Contactor	CONTACTOR:S-K20;MOTOR;280/440 VAC;250 A	125780	Mitsubishi	1	3
Contactor	CONTACTOR:S-N220;MOTOR;660 VAC;220 VAC	142495	Mitsubishi	1	3
Contactor	CONTACTOR:S-N35CX;MOTOR;380/440 VAC;3	125775	Mitsubishi	1	3
Contactor	CONTACTOR:S-N50;CONTROL;600 VAC;220 VAC	125783	Mitsubishi	1	3
Contactor	CONTACTOR:S-N80;MOTOR;660 VAC;220 VAC;3	142494	Mitsubishi	1	3
Contactor	CONTACTOR:TYPE 10B 250;MOTOR;600 VAC;3	125605		1	3
Contactor	CONTACTOR:TYPE 3TF4422-OAQO;380 V	142905		1	3
Contactor	CONTACTOR:TYPE JOB170;MOTOR;600 VAC;3	139103		1	2
Contactor	CONTACTOR:TYPE: VC19-3E5- DF;MOTOR;400 A	127780		1	2
Contactor	CONTACTOR:V7-ZC;SACE VACUUM;3.3/6.6 KV	183945		1	2
Contactor	KIT CONTACT:CA1480;REPAIR CONTACTOR;3	139039		0	2

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Units Siemens DCS, HMI, Simulator Spares Procurement Works Information

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Contactor	KIT CONTACTOR;3 CONTCT:CN1-FC-133;REPAIR	137992		0	2
Contactor	KIT CONTACTOR;3 CONTCT:CONTACTOR;3	142919		0	2
Contactor	KIT CONTACTOR CONTCT:OUTDOOR;FOR MAIN	142445		0	2
Contactor	SWITCHG:REVERSING CONTACTOR;24 V;16 A	580389		1	5
Contactor	SWITCHGEAR:REVERSING CONTACTOR;24 V;9 A	580390		1	5
Contactor	VACUUM CONTACTOR,TOYO-DINKI VC19-3E5-SS4	142492		1	2
Contactor	CONTACTOR:104114CL02A310TN;380/500 VAC , 32A	237427	GE	3	10
Contactor	CONTACTOR:104084CL01A310TN;380/500 VAC, 25A	237428	GE	3	10
Contactor	CONTACTOR:112099CL04D310MN;CONTRO L;3P , 60A	237418	GE	3	10
Contactor	CONTACTOR:112138CL07E300MJ;CONTRO L;3P , 100A	237417	GE	3	10
Contactor	CONTACTOR:3TF5622-0AM0;CONTROL;660 VAC	126974	Siemens	6	12

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Contactor	CONTACTOR:CA2-DN31B5;CONTROL;500 VAC;6 A	142508	Telemacanigue	3	10
Contactor	VACUUM CONTACTOR,TOYO-DINKI VC19-3E5-SS4	142496	Mitsubishi	1	4
Water Cannon Motor Contactor	CONTACTOR:CLO9A311MN10428N;Electro MAGNETIC;3P	215468	Hitachi	3	10
Coal Conveyor Motor Contactor	RELAY CTRL:CAD32M7;10 A;3NO 1NC;220 VAC	126404	Schneider electric	2	10
Barring gear motor Contactor	MECHANISM,LATCH C/W COIL CONTACT CA1-250 – 110VDC Coil	142967		3	10
Contactor	CONTACTOR:CLO7A311MN;MAGNETIC;3, 65A	215467	GE	2	10
Contactor	CONTACTOR:CLO9A311MN;MAGNETIC;3, 95A	215468	GE	2	10
Contactor	CONTACTOR:112697CL25A310T3;CONTROL ;3	237413	GE	2	10
Contactor	CONTACTOR:112344CL25A310TN;CONTRO L;3	237414	GE	2	10

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Contactor	CONTACTOR:112159CL09E300MN;CONTRO L;3	237415	GE	2	10
Contactor Coil	COIL ELECT:AC1-10;120 VDC;CONTACTOR	130131		3	10
Contactor Coil	COIL,TRIP HS/DC 110	129444	Schneider electric	3	10
MCB	BKR CIRC:240/415 VAC;40 A;3;MINIATURE	237460		5	30
MCB	BKR CIRC:250/380 VAC;4 A;1;STOTZ	119953		5	30
MCB	BKR CIRC:SF3-G3;415 VAC;5 A;3;5 KA	119266		5	30
MCB	BKR CIRC:CF2G3;440 VAC;5 A;2;5 KA	119261		5	30
MCB	BKR CIRC:250 VAC;5 A;1;2.5 KA	119251		5	30
MCCB	BKR CIRC FDN36TD063ED:500 V;63 A;3;50 KA;TYPE: MCCB	237407	GE	5	20
MCCB	BKR CIRC FDN36TD080GD:500 V;63 A;3;50 KA;TYPE: MCCB	237406	GE	5	20
MCCB Protection	BKR CIRC:FEN36MC080JF: 500 V;12.5 A;3;MOTOR PROTECTION	237455	GE	5	20

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MCCB	BKR CIRC:430636FDN36TD125GD;500 V;125 A	237439	GE	3	10
MCCB Protection	KR CIRC:160A FEN36MC160JF: 500 V;160 A;3;MOTOR PROTECTION	237453	GE	3	10
MCCB Protection	BKR CIRC: 200A FEN36MC200KF: 500 V;200 A;3;MOTOR PROTECTION	237450	GE	3	10
MCCB	BKR CIRC:432979FEN36TD200KF;500 V;200 A	237437	GE	3	10
MCCB	BKR CIRC:431461FGN36AA630NNF;500 V;630 A FG	237443	GE	1	6
MCB	BKR CCT LV: GPS1MHAH : BACK/DIN RAIL;3;4 A;400 V;8kA	237459	GE	5	30
MCB	BKR CCT LV: GPS1MHAF : BACK/DIN RAIL;3;6 A;400 V;8kA	237447	GE	5	30
MCB	BKR CCT LV: GPS1MHAK : BACK/DIN RAIL;3;10 A;400 V;8kA	237466	GE	5	30
MPRO	BKR CIRC: GPS1MHAL : 500 V;50 A;3; 12.5kA MOTOR PROTECTION	237454	GE	2	5
MPRO	BKR CIRC: GPS1MHAH : 500 V;50 A;3; 13kA MOTOR PROTECTION	237448	GE	2	5

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MCB	BREAKER CCT LV:BACK/DIN RAIL;MCB;13 A	237449	GE	5	30
MCCB	BKR CIRC:FDN36TD016ED:500 VAC;16 A;3;50 KA; 160A TYPE: MCCB	237440	GE	3	10
MCCB	BKR CIRC: GPS1MHAP: 400 VAC;25 A;3P	237457	GE	3	10
MCCB	BKR CIRC: GPS1MHAR: 400 VAC;32 A;3P	237456	GE	3	10
MPRO	BKR CIRC: GPS1MHAG MAGNETIC PROTECTION: 400 VAC;2.5kA;3P	237452	GE	1	5
Trip Switch / Pull switch	Model: PKEY07 Operation: Bi-direction operation with integrated audio and visual LED Enclosure ingress protection: IP66 Input voltage: 24VDC Contact rating: 3A-24VDC, 6A-125VAC, 1,5A-230VAC		Electrotron	10	40
Block Chute Detector	Model: Bindicator – ROTO- BIN- DICATOR Input voltage: 120-240VAC , 24-48VDC Model: PRO-AGMAX1. Type: 4X, IP66 S/N: 2015054			6	18

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