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C3.1: EMPLOYER'S WORKS INFORMATION

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1 Description of the works

1.1 Executive overview

This project is for the replacement of the obsolete Sootblower Control System on unit 5 from the Modicon 884 PLC to the advanced Quantum PLC, with the same configurations that were implemented on Units 1 and 3. The retrofitting of these changes shall also be implemented on Units 2, 4 and 6. The replacement includes the refurbishment of the Mimic Panel which is the Operator's interface with the field (plant) and installation of the new SCADA HMI.

1.2 Employer's objectives and purpose of the works

The purpose of this document is to provide the scope of work of the *Contractor* replacing the Sootblower Control System on Unit 5 at *Kendal Power Station*.

The objective of the *works* is:

- To replace the current obsolete Modicon 884 PLC and associated PLC hardware with an advanced modern PLC system.
- Installation of new Sootblowing SCADA HMI that will communicate with the newly installed PLC and with the necessary interfaces to the PI data historian.
- To replace the current mimic panels with HMI PC screen displays.
- To be able to use data from the PI data historian to enable full automatic soot blow scheduling and automatic execution.
- To replace the current mimic panels with HMI PC screen displays.
- To install new pressure transmitters on both common ranges (air heater and lance or wall blowers), which will be supplied by the *Employer*. All other hardwiring (cabling), fittings, brackets and pipe work is supplied by the *Contractor*. The *Contractor* determines and installs the conversion and configurations in order to accommodate the change-over valve selections and the high and low system pressures alarms. The wiring and cabling numbering shall correspond with the drawings.

The replacement of the mentioned systems promotes the following:

- User friendliness for both operating and maintenance
- Flexibility in operation
- Improved maintainability
- Improved reliability
- Improved availability
- Reduction in maintenance cost
- Easy configuration of new control philosophies
- Easy system administration and configuration management
- Improved incident analysis
- Improved plant monitoring and real time information
- Process information archiving

The *Contractor* performs the works on Unit 5 at Kendal Power Station, with the same configurations that were implemented on Units 1 and 3. The retrofitting of these changes shall also be implemented on Units 2, 4 and 6.

The works are:

- The decommissioning of the existing Sootblower PLC and mimic panels on Unit 5.
- The removal of the existing Sootblower PLC and MIMIC panels from the Unit 5 and replacing with new system to produce as a minimum the exact functionality as per the old systems.
- The removal of the pressure switches on the plant and replacing with Pressure transmitters (supplied by the Employer).
- The use of the currently installed PLC user logic and the Operating philosophy.
- The Engineering, configuration and interfacing of the signals to PI_ (OSI Soft Historian) as specified in the Appendix A (LOSS diagram).
- The *Contractor* de-commissions all the Sootblower data currently configured on the existing CITECT system on Unit 5.
- The design, procurement, supply, transportation and delivery to Site, the offloading and storage on Site, installation, commissioning and testing of a new Sootblower PLC and SCADA / HMI system on Unit 5.
- The PLC needs to be able to get data from the PI Historian for full automatic soot blowing scheduling.
- The supply of a SCADA Software Licence to cater for 5000 tags.
- The supply and installation of all power cables (24VDC and 220VAC) required for the *works*. The *Contractor* terminates both ends of the cable and provides and, if applicable, installs fuses, fuse holders and/or MCBs at the *Employer's* power source.
- The supply and installation of all cabling (UVG), junction boxes and any other Plant and Material required for routing the analogue ammeter signals from the Mimic panel to the PLC in the unit equipment room. The *Contractor* displays all the analogue ammeter signals on the HMI. The signals must be linear and reflect the real value on the plant.
- The connection of the PLC and HMI to the nearest access point on the current Hirschmann network. All communication between the PLC, HMI and PI server shall be routed via the Hirschmann network.
- The rehabilitation of the panel after removal of the old mimic panel.
- The labelling of the new equipment and cables must be done. (KKS numbering).
- The making good of all affected areas.
- The training of the engineering, maintenance and operating personnel on the installed Sootblower Control System which includes the SCADA (HMI), PLC and Network equipment.
- The provision of one PG unit, with the Unity software functions, to be used for Maintenance purposes.

The Schneider Quantum PLC hardware to be installed and their quantities are:

Module type	Quantities
140 CPS 114 20 Summable 120/230 11A Power Supply	4
140 CPU 65150 Processor.	1
140 NOE 77 101 Ethernet Card.	1
140 CRP 93 200 Remote I/O Head.	1
140 ATI 0300 Thermocouple Card.	2
140 ACI 0400 Analogue Current Input Card.	3
140 DDI 353 00 Digital Input Card.	10
140 DDO 353 00 Digital Output Card	9
140 CRA 93 200 Remote I/O Drop.	3
10 Slot racks. - 4X Mounting Brackets.	4

The scope of the works includes:

- The *Contractor* removes the old Sootblower System and installs and commissions the new Sootblower System without disrupting the Unit sootblowing sequence.
- All services, equipment and resources to fulfil the requirements of the Works Information to provide a fully functional system;
- Phased execution of the *works* which includes the complete investigation; system engineering and design; production engineering; construction and erection; commissioning and operational testing.
- The Employer shall provide the all existing control and operating philosophies to be implemented on Unit 5.
- The *Contractor* validates, optimises and then implements such control and operating philosophies into the new Sootblower Control System.
- All the changes to hardware, software and documentation that are to be implemented on the units 5 must be retrofitted back onto units 1, 2, 3, 4 & 6.
- The Computer's Operating System of Windows 7 must be 32 bits for all units.
- The re-drawn 160 P&ID drawings to be supplied for all six units.
- The quality control and assurance during all phases of the *works*;
- The removal, transport and offloading to the *Employer's* on Site stores and inventorying of all decommissioned components (The *Employer* has the privilege to identify the scrapped components);
- Regular on-site Progress, Risk and any other ad-hoc meetings with the *Employer's* team to fulfil the *works*.

- The following Additional functions on the system that were implemented on Units 1 and 3 are to be included on Unit 5:
 - ✓ To separate charging-up of the system on Air heaters and Lance blowers on the local and manual modes.
 - ✓ Have specific alarming: - low pressure status alarm must indicate the individual Lance or Wall blower that has the problem.
 - ✓ An additional pressure transmitter on the Common header (valve HCB12) indicating a system low pressure alarm.
 - ✓ SCADA failure: hardwire reset button to cancel the alarm, emergency shutdown (PLC shutdown.)
 - ✓ Wall blowers: when any group of blowers are in-service and a fault occurs on any blower the other blowers in-service must continue with their sequence/cycle until they have retracted completely. The program stops and prevents sootblowing until the faulty blower has been rectified.
 - ✓ An isolated blower alarm status to be added when in automatic mode the PLC checks for the Motor Current (MAC) and Limit Switch (LS) the conditions are:
 - ✓ no MAC & no L = Isolated.
 - ✓ MAC & no L = sticky limit.
 - ✓ SOE: summary of the critical alarms. (Check the colour coding).

The Contractor provides all services, equipment and resources to fulfil the requirements of the scope of work to provide a fully functional system. The Contractor ensures that the works, upon completion, are fit for the intended purpose as described in this scope of work.

All interaction required from the Contractor with the Project Manager, Supervisor and any other of the Employer staff members during any of the project phases is done on Site unless otherwise agreed between the Contractor and the Project Manager.

The works are designed for environmental conditions prevailing at the Site. The Contractor familiarises himself with the environmental conditions prevailing at the Site and provides for these in his design and consequent installation of the new Sootblower Control System.

1.3 Interpretation and terminology

The following abbreviations are used in this Works Information:

Abbreviation	Meaning given to the abbreviation
C&I	Control and Instrumentation
CAD	Computer Aided Design
CM	Corrective maintenance
DCS	Distributed Control System
DCR	Design Change Request
FAT	Factory Acceptance Testing
FSSS	Furnace Safeguide and Supervisory System
GGs	Group Generation Standard
HMI	Human Machine Interface
KKS	Kraftwerk Kennzeichen Systeme
LOSS	Limits Of Supply and Services
LCD	Liquid Crystal Display
MTTR	Mean Time To Repair
NEC	New Engineering Contract
OEM	Original Equipment Manufacturer
OHS	Occupational Health and Safety
P&ID	Process and Instrument Diagram
PPE	Personal Protective Equipment
PI	Process Information
PLC	Programmable Logic Control
PM	Preventative maintenance
QA	Quality Assurance
QC	Quality Control
SABS	South African Bureau of Standard
SANAS	South African National Accreditation System
SAT	Site Acceptance Test
SCADA	Supervisory Control And Data Acquisition
SIT	Site Integration Test
SOE	Sequence Of Events

2 Management and start up

2.1 Management meetings

Regular meetings of a general nature may be convened and chaired by the *Project Manager* as follows:

Title and purpose	Approximate time & interval	Location	Attendance by:
Kick - Off	Immediately after contract award	Venue to be determined by the Project Manager	Required individuals from both the Contractor and the Project Manager's organisation
Risk Register	Weekly	Venue to be determined by the Project Manager	Required individuals from both the Contractor and the Project Manager's organisation
Overall contract progress and feedback	Weekly	Venue to be determined by the Project Manager	Employer, Contractor, Supervisor, and Others as determined by the Project Manager
Meeting associated with compensation event	When applicable	Venue to be determined by the Project Manager	Employer, Contractor, Supervisor, and Others as determined by the Project Manager
Planning Meetings (including integration meetings with Others)	Weekly	Venue to be determined by the Project Manager	Employer, Contractor, Supervisor, Planners and Others as determined by the Project Manager
Safety Meetings	When required	Venue to be determined by the Project Manager	Employer, Contractor, Supervisor Safety Officers and Others as determined by the Project Manager
Commissioning Meetings	Bi-weekly	Venue to be determined by the Project Manager	Employer and Contractor

Meetings of a specialist nature may be convened as specified elsewhere in this Works Information or if not so specified by persons and at times and locations to suit the Parties, the nature and the progress of the works. Records of these meetings shall be submitted to the Project Manager by the person convening the meeting within five days of the meeting.

All meetings shall be recorded using minutes or a register prepared and circulated by the person who convened the meeting. 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 conditions of contract to carry out such actions or instructions.

2.2 Documentation control

All contractual communications will be in the form of properly compiled letters or forms attached to e mails and not as a message in the e mail itself.

2.3 Health and safety risk management

The *Contractor's* personnel is to undergo Safety Induction Training at Kendal prior to commencement of this contract after the project safety file has been evaluated and approved by Safety Department and the Project Manager before any activities can be started on site.

- The Contractor shall comply with the health and safety requirements contained in Project SHE specification provided with the tender documents and all applicable health & safety laws and regulations and rules, guidelines and procedures.
- The Contractor shall develop and implement a project specific health and safety plan based on the provided project applicable SHE requirements and legal requirements. The Contractor shall submit the health and safety plan to the Client/ Safety risk department before commencement of the project for evaluation and approval.
- These documents are shall be maintained for the duration of the contract.
- The *Contractor* and all his personnel shall attend a health and safety induction course prior to starting with the project *works* provided by Eskom Kendal Power Station after the evaluation approval of the project SHE file by the Eskom Kendal Client and Safety Risk Department.
- The Contractor shall ensure all his personnel attends a contractor project health and safety induction course prior to starting with the project works.
- The *Contractor* submits all the documents as indicated in the Safety, Health & Environmental Specifications relevant to the work to Safety Risk Management before the induction course.
- The Contractor shall maintain training and competency records with regard to the skills he or she uses to carry out the *works* or any other works in the *Employers* premises.
- The Contractor shall maintain compensation commissioner records and proof of registration.
- Keep records and documentation with regard to any sub-contractor or labour-only contracts he places or uses to carry out the *works* or any other works in *Employers* premises.
- The Contractor shall maintain personal protective equipment and safety equipment inspection, training and competency records and documentation.
- Keep employment contracts for all sub-contractor or labour-only contracts.
- The Contractor shall demonstrate compliance to a safety system, such as OHSAS 18001 or any other system that is similar in nature.
- The Contractor shall maintain records of all incidents or accidents, and vehicle accidents, incurred during execution of this *works* or any other works in the *Employers* premises.
- The Contractor shall maintain records of all man-hours, including sub-contractors or labour-only contracts; the *Contractor* spends on the *Employers* premises.
- The Contractor shall maintain written safe work procedures for all hazardous tasks the *Contractor* executes on the *Employers* premises.
- The Contractor shall maintain Environmental plan and awareness training.
- The Contractor shall ensure minimum wage compliance for the different skills and to which Bargaining Council compliance is made to and proof of membership, if any.

- The Contractor shall implement and maintain Risk Assessment of this type of works.
- The Contractor shall maintain proof of authorisation/accreditation from Department of Labour and or other Statutory Body for this type of works, if applicable.

2.4 Environmental constraints and management

The *Contractor* shall comply with the following environmental requirements:

- Waste management procedure
- Emergency preparedness plan
- Environmental competency training and awareness

2.5 Quality assurance requirements

The Supplier shall comply with ISO 9001: 2015 Quality Management System and category 1 of Eskom Supplier Quality Management Specification QM 58 240-105658000.

2.6 Programming constraints

2.6.1 General

The *Contractor* submits a single MS Projects programme that incorporates the programmes of all of his sub-*Contractors*. The interface points between his different sub-*Contractors* as well as the interface points between the individual sub-*Contractors* and the *Contractor* are to be clearly identified. The programme must show the actual critical path clearly.

2.6.2 Submission of Revised Programmes and Progress Reporting

The *Contractor* submits two hard copies and one electronic copy in Microsoft format, of each revised programme and progress report to the *Project Manager* for acceptance. All formally issued reports are to follow the progress reporting requirements as stated below.

2.6.3 Weekly reports status

A weekly status report is submitted by the *Contractor* to the *Project Manager*. Contents of a weekly report may include the following items:

- a) The updated Microsoft Project programme
- b) Programme summary narrative
- c) Progress and performance summaries
- d) Schedule rolling horizon
- e) Sectional Completion and Key Milestone status

2.6.4 Monthly Progress Meeting

The content of the report consists of the following:

- a) Executive summary (narrative identifying major movement within the reporting period)
- b) Revised Programme indicating, actual progress of work against last accepted programme
- c) A one-month look ahead work window
- d) Activities completed during current reporting period per discipline, including the activities of the *Employer* and *Others*.
- e) Activities in progress during current reporting period per discipline, including the activities of the *Employer* and *Others*.
- f) Activities undertaken during next reporting period per discipline, including the activities of the *Employer* and *Others*
- g) Status overview by unit, by plant area, by phase
- h) Key issues / Items of concern and corrective actions

- i) Early warning log
- j) Compensation event log
- k) General planning report (computer generated)
- l) Critical activities report
- m) Key event report (computer generated)
- n) Updated resource schedule (If changed)
- o) Updated activity schedule
- p) Forecast rate of payment schedule updated with actual progress.
- q) Statement and report on works ahead and behind progress.
- r) The monthly progress reporting cycle is based on a month end "cut-off"

2.7 Contractor's management, supervision and key people

The Contractor provides detailed of key people to be used on the project. Resumes detailing qualification, experience and skills of these people must be submitted to the Project Manager for acceptance.

The Contractor ensures that employment and management of his employees is in line with all labour laws, regulations and bi-laws.

The Contractor provides the following key people as a minimum:

- a) Dedicated *Project Manager*
- b) Dedicated Planner
- c) Dedicated Site Manager
- d) Dedicated Quality Supervisor
- e) Dedicated Site Safety Manager / Representatives
- f) Dedicated Discipline Engineer
- g) Dedicated responsible person and authorised supervisor as per plants safety regulations' permits to work systems.

For the purpose of this contract "Dedicated" means that the person is allocated only to this Contract, full time, must be available at Site and must respond promptly to instructions.

As part of the method statement the *Contractor* states how many of the key people are required for the execution of the works. Respective job functions and extent of availability must be clearly defined.

The *Contractor* ensures that:

- a) Appointed labour force is trained, competent and skilled to perform assigned work. The *Contractor* provides CVs and proof of qualifications of his key persons as a returnable. Using trained, competent, qualified and skilled people doesn't exempt the *Contractor* from SD&L obligations and corporate social responsibilities.
- b) All permits, authorisations and certifications required for access and effective execution of the works are dealt with on time.
- c) A proper labour plan must be part of the *Contractor's* method statements.
- d) All labour laws must be complied with at all times.

2.8 Invoicing and payment

Within one week of receiving a payment certificate from the *Project Manager* in terms of core clause 51.1, the *Contractor* provides the *Employer* with a tax invoice showing the amount due for payment equal to that stated in the *Project Manager's* payment certificate.

The *Contractor* shall address the tax invoice to Eskom Holdings SOC Ltd and include on each invoice the following information:

- Name and address of the *Contractor* and the *Project Manager*;
- The contract number and title;
- *Contractor's* VAT registration number;
- The *Employer's* VAT registration number 4740101508;
- Description of service provided for each item invoiced based on the Price List;
- Total amount invoiced excluding VAT, the VAT and the invoiced amount including VAT;
- (add other as required)

All Invoices must be emailed to invoiceseskomlocal@eskom.co.za

2.9 Insurance provided by the Employer

The Employer is to provide insurances as stated in the Insurance Table
The Contractor will be liable for the applicable deductible, if any

INSURANCE TABLE

Insurance against	Minimum amount of cover or minimum limit of indemnity
Assets All Risk	As per the insurance policy document.
Project insurance	As per the insurance policy document.
Environmental Liability	As per the insurance policy document.
General and Public Liability	As per the insurance policy document.
Transport (Marine)	As per the insurance policy document.
Motor Fleet and Mobile Plant	As per the insurance policy document.
Terrorism	As per the insurance policy document.
Cyber Liability	As per the insurance policy document

2.10 Contract change management

The *Employer* may instruct changes to the scope at any time, each instruction shall set out the change and the date on which it becomes effective; and must be issued to the Contractor in writing to be valid.

2.11 Provision of bonds and guarantees

The form in which a bond or guarantee required by the *conditions of contract* (if any) is to be provided by the *Contractor* is given in Part 1 Agreements and Contract Data, document C1.3, Sureties.

The *Employer* may withhold payment of amounts due to the *Contractor* until the bond or guarantee required in terms of this contract has been received and accepted by the person notified to the *Contractor* by the *Project Manager* to receive and accept such bond or guarantee. Such withholding of payment due to the *Contractor* does not affect the *Employer's* right to termination stated in this contract.

2.12 Records of Defined Cost, payments and assessments of compensation events to be kept by the Contractor

- a) The *Contractor* must keep all documentation related to the compensation events, quotes and instructions from the Employer for the period of 5 years after contract completion for audit purposes.

2.13 Training workshops and technology transfer

- a) The objective of training is to provide the Kendal Power Station personnel with the necessary skills and knowledge to achieve all plant performance targets with respect to safety, reliability, availability and economic plant operation.
- b) The *works* further requires that:
 - i. Training provided by the *Contractor* is directly applicable to Kendal Power Station's new Sootblower System hardware and software components.
 - ii. All the training material and manuals, provided by the *Contractor*, including third party documentation are in the language of this contract.
 - iii. The *Contractor* submits a training programme for acceptance by the *Project Manager* prior to commissioning of the unit.
 - iv. Training on all the components of the new Sootblower System for the *Employer's* maintenance and engineering staff are official and accredited.
 - v. On Completion of the training programmes the *Employer's* personnel are tested, evaluated and declared competent by the *Contractor*.
 - vi. Training for the *Employer's* Operating, Maintenance (C&I and Electrical) and Engineering personnel takes place at Kendal Power Station.
- c) The *Contractor* provides all course material including manuals. All course material is in English and includes all third party documentation. A copy of the training documentation is supplied to each trainee with an additional 3 hard copies and 2 software copies submitted to the *Project Manager* for the *Employer's* library and training department.
- d) The supply of drafts, pre-print proofs and printed copies of training documentation is planned by the *Contractor* in such a way that the required training is complete before commissioning of the unit commences. Training manuals are continuously updated by the *Contractor* up to the date of issue of the Defects Certificate for the whole of the *works*.

3 Engineering and the Contractor's design

3.1 *Employer's* design

3.1.1 General Requirements

- The *Contractor's* design does not impact or change the *Employers* existing operating and control philosophies of the process Plant.
 - i. Where contradictions or differences exist between the design standards, guidelines and codes of the *Employer* and the *Contractor*, the *Contractor* notifies the *Employer*. After technical clarification and risk assessment by the *Contractor* and the *Employer*, the *Employer* decides which is used.
 - ii. All standards, guidelines and codes are deemed to include all the latest revisions as applicable at the Contract Date.
 - iii. The *Contractor* ensures that he is in possession of all the required documentation.
- The *Employer* requires all drawings in Microstation version 8 format and adheres to the *Employer's* Standards
- Electronic copies of drawings are supplied in both native CADD format and PDF/TIF format.

3.2 Parts of the works which the *Contractor* is to design

- a) The *Contractor* together with the Project Manager clarifies all project management issues.
- b) The *Contractor* validates any documentation provided by the Employer for accuracy against the existing installation to enable the detailed engineering and design by the *Contractor* for the new Sootblower System.
- c) The *Contractor* designs, supplies and installs cable rack, trays and conduit needed to accommodate the cables to fulfil the works. The *Contractor* may use of the Employer's existing cable trays, racks and routes after formal acceptance from the Project Manager.
- d) The *Contractor's* lead engineer compiles the commissioning procedures, to ensure that the commissioning is done with no harm to people, no plant damage and no plant production loss.
- e) The *Contractor* identifies and gathers any information and data required for the design. Where the information required is not available the *Contractor* collects or alternatively, generates the information.
- f) There is no involvement of an intermediate engineering function and the *Contractor* works directly with the *Employer's* personnel for all technical matters.
- g) The documentation synopsis and drawing register is submitted to the *Project Manager* and his acceptance is obtained as a prerequisite to Completion of the Investigation and Design stage.
- h) During the design, all functional and performance requirements are translated into specific hardware and software designs.

3.3 Procedure for submission and acceptance of *Contractor's* design

- The basis for the completion of all engineering activities is documentation as defined in the Employer's Works Information.
- Technical clarification is where the *Contractor* clarifies with the *Project Manager* all the technical issues.
- The *Contractor* is responsible for maintaining the minutes of the meetings, a deviation schedule and list of open points (LOP) for all engineering activities and records of changes to scope during the engineering phases.
- The *Project Manager* reviews the updated performance, functional, and equipment specifying documentation.

3.4 Other requirements of the *Contractor's* design

- The works "As-Built" physical and functional characteristics is accurately reflected in documents and databases, including those for design, procurement, construction, operation, testing and training.
- Codification of Plant and Materials is in accordance with KKS system.

3.5 Use of *Contractor's* design

- All Designs, drawings, specifications, instructions, manuals and other documents created, produced by or on behalf of the *Contractor* for the purposes of Providing the *works* (collectively, the "*Contractor's* Copyright Documents") and copyright therein and all intellectual property rights relating thereto, are, will be, and will remain the property of the *Contractor*.
- The *Contractor* hereby grants to the *Employer*, with effect from the *Contract Date* or in the case of documents or other matter not yet in existence, with the effect from the creation thereof (and notwithstanding the Completion or abandonment of the *works* or termination of this Agreement) an irrevocable, royalty-free, non-exclusive and perpetual licence to use those of the *Contractor's* documents and other matter supplied to the *Employer* under this contract, for any purpose whatsoever connected with the *works*, including for the purpose of

maintenance, operation, construction, retrofit, refurbishment, upgrade, repair or demolition of the *works* or any parts thereof. The *Contractor* hereby shall procure that each *Subcontractor* shall execute all and any documents or other matter and take any other actions as may be required in order to give effect to this licence.

- The *Employer* uses the *Contractor's* Copyright Documents and all intellectual property rights relating thereto for the sole purpose of all its needs at Kendal Power Station, which includes any *Employer* processes and procedures pertaining to use, maintenance, operation, construction, retrofit, refurbishment, upgrade, repair or demolition of the *works*.
- The *Employer* may copy and submit, without restriction, all documentation to others employed or contracted by the *Employer* who has duly signed a confidentiality agreement with the *Employer*.
- The *Contractor* may not use any Copyright Documents (and the copyright therein and all intellectual property rights relating thereto), which are owned by the *Employer* and/or *Others* and provided to the *Contractor*, for any other purpose than to provide the works. The *Contractor* may not copy and therefore not retain copies of any such Copyright Documents. At completion of the whole of the works, or earlier termination, the *Contractor* returns to the *Employer* all such documentation provided to him by the *Employer* and/or *Others*.

3.6 Design of Equipment

- No requirements for the design of Equipment.

3.7 Equipment required to be included in the works

- Any equipment required for routine operation and maintenance of the works that are used during project execution should be included as equipment provided as part of the works.

3.8 As-built drawings, operating manuals and maintenance schedules

- The *Contractor* obtains the *Employer's* acceptance of the documentation supplied as part of the *works*.
- The *Contractor* populates the *Employer's* Master Document Index using the *Employer's* Template.
- Documentation handover to the *Employer* includes a complete softcopy as well as three complete sets of hardcopies.

3.8.1 General Documentation

The documentation includes the following general documents:

- i. Master Document Index (Using the *Employer's* Template)
- ii. Document Management Procedure
- iii. Detailed Design Report as described in Section 3.1.2
- iv. Reliability, Availability and Maintainability (R.A.M) Study
- v. Commissioning Strategy
- vi. Record of agreed variations from the original design specification; and
- vii. Detailed lifecycle management strategy.

3.8.2 As-Built Drawings

- All drawings are developed in MicroStation Version 8 and adhere to the Employer's standards. Electronic copies of drawings are supplied in both native CADD (Computer-Aided Design and Drafting) format and PDF/TIF format.

The Drawing Register records the following information, as a minimum, for all drawings:

- i. Drawing title
- ii. Drawing type
- iii. Drawing number; and
- iv. Drawing version

The following detailed as-built drawings are included in the *works*, as a minimum, and depict the minimum information as listed below. For efficient depiction of the information, each drawing category can be presented on a single or multiple drawings:

System Architecture:

- a. High level complete system layout,
- b. Interfacing systems

Network Architecture:

- a. Hardware component names,
- b. Hardware component KKS numbers,
- c. Hardware component location,
- d. Cable numbers,
- e. Port numbers; and
- f. Interfacing systems with associated drawing numbers

Equipment Cabinet layout:

- a. Equipment cabinet location,
- b. Hardware component names,
- c. Hardware component KKS numbers,
- d. Hardware component rack location; and
- e. Rack numbering

Electrical reticulation:

- a. Power supply sources and locations,
- b. Power supply distribution
- c. Power supply loads and locations
- d. Cable Routing Design,
- e. Power cable numbers,
- f. Socket numbers,
- g. Junction box numbers,
- h. Switchgear cabinet layout,
- i. Equipment cabinet power distribution; and
- j. Electrical Wiring Diagram (Single Lines);
- v. HMI Displays:
 - a. Display identification,
 - b. Display type,
 - c. Display layout; and
 - d. Display hierarchy

3.8.4 Training

Training documentation includes all documents utilised during Operator, Administrator or Maintenance and Engineering training as well as any documentation required for future skills transfer and retraining. This includes as a minimum:

- i. Training manuals,
- ii. Training exercises,
- iii. Training practical guides,
- iv. Presentation slides,
- v. Other training handouts; and
- vi. Training software and/or test rig documentation.

3.8.5 Quality Control and Assurance

The quality control and assurance master document outlines the quality management strategy for the execution and testing of the whole of the *works*.

Testing is performed against the functional- and performance-requirements and includes the following minimum sections:

- i. Factory Acceptance Testing (FAT)
- ii. Site Acceptance Testing (SAT); and
- iii. Site Integration Testing (SIT)

Each of these sections includes the following details:

- iv. Testing requirements
- v. Testing procedure
- vi. Desired results
- vii. Testing certificates; and
- viii. Testing Schedule

4 Procurement

4 People

4.1.2 Minimum requirements of people employed on the Site

- The Contractor will be required to recruit within (Kendal Employment Policy)
- All people employed to provide the works shall be trained on health and safety
- All people employed to provide the works shall be trained on doing risk assessments
- The Contractor must ensure that all workers have the necessary training to complete specific work packages and that his/her team consists of enough team members to complete the work within the given time frame. All necessary training and certification must be complete prior to commencement of work; any delays will result in penalties. All Training and Competency Records with regard to the skills the Contractor's workers used to carry out the works or any other works on the Employer's premises are to be submitted with tender documentation

4.1.3 Supplier Development & Localisation (SD & L) Requirements

Section 1: Pre-qualification Criteria for Preferential Procurement

SDL&I will apply the following pre-qualification criteria as envisaged in PPPFA 2017 regulation 4

a) Minimum BBBEE status level of contributor?

If Yes, what is the BBBEE status and/or level required

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>

b) Is there BBBEE category targeted for this enquiry?

If Yes, BBBEE category

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Tender Returnable if the above elements are requirements;

- An original or certified copy of sworn affidavit in the case of EME's must be submitted (affidavit must be completed fully), or
- An original or certified copy of B-BBEE Certificate issued by CIPC for EME's. OR
- An original or certified copy of the B-BBEE certificate / sworn affidavit in the case of QSE's must be submitted, or
- An original or certified copy of the B-BBEE certificate issued by SANAS Accredited Verification Agency must for LME's must be submitted, or
- For JV's only an original or certified copy B-BBEE Certificate issued by a SANAS Accredited Verification Agency will be accepted.

c) Minimum subcontracting requirement for this?

If Yes, what is the minimum percentage?

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>

Tender Returnable if the above element is a requirement;

- Proof of a sub-contract agreement/s must be submitted.
- Sub-contractor/s B-BBEE certificate / sworn affidavit must be submitted.
- Sub-contracting agreements can only be concluded with one of the following entities;
- an EME or QSE which is at least 51% owned by black people;
- an EME or QSE which is at least 51% owned by black people who are youth;
- an EME or QSE which is at least 51% owned by black people who are women;
- an EME or QSE which is at least 51% owned by black people with disabilities;
- an EME or QSE which is 51% owned by black people living in rural or underdeveloped area or townships;
- a cooperative which is at least 51% owned by black people;
- a EME or QSE which is at least 51% owned by black people who are military veterans

Section 2: Mandatory Requirements

2.1 Designated Sectors

When applicable the following stipulated minimum threshold for Local Production and Content must be achieved in full by the tenderer

a) Is this Commodity or part of it a Designated Sector?

YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>

Please indicate below Designated Components

Commodity	Components	Local Content Threshold
Cabling	Cabling	90%

NOTE 1: SBD 6.2 Declaration Form and Annexure C (Local Content Declaration-Summary Schedule) is therefore **mandatory** and must be a tender returnable.

2.2 CIDB Skills Development

Continuation of Mandatory Requirements

a) Is there CIDB compulsory training?

If Yes, what is the % of the Construction Skills Development Goal % (CSDG)

YES	NO
<input type="checkbox"/>	<input checked="" type="checkbox"/>

If the answer above is Yes, it will then be mandatory for the supplier to match Eskom's targets

Criteria	Eskom Target	Tenderer Commitment
CSDG Percentage	0.25%	N/A
Description	CIDB Skills	N/A

Note 3: Failure by the Contractor/Service Provider/Supplier to meet the CIDB CSDG mandatory % will render their tender non-responsive. Contractual Requirement

Section 3: SDL&I Undertaking

Tenderers who complete and submit the undertaking as required, but who do not meet Eskom's targets, will not be disqualified. SDL&I undertakings do not form part of scoring but commitments will form part of contractual obligations

B-BBEE Requirements

Tenderers will be required to maintain or improve their B-BBEE Recognition Level for the duration of the contract.

Local Procurement Content

Local Procurement Content" refers to value added in South Africa by South African resources. Where a single contract involves a combination of local and imported goods and/or services, the tender response must be separated into its components as per the Price Schedule included with the tender documents. Local procurement content is total spend minus the imported component.

Local Procurement Content	Eskom Target	Tenderer Proposal
	100%	

Job Opportunities

Tenderer to indicate number of Jobs to be created and/or retained from this contract;

Number of Jobs to be created	Number of Jobs to be retained

Section 4: SDL&I Penalty



- Eskom will apply a penalty of 2.5% of the Contract Value for failure to meet SDL&I obligations.
- For the duration of the contract, Eskom will retain 2.5% of every invoice (excluding VAT) as security for the fulfilment of all SDL&I Obligations. The retained amounts shall only be released to the Contractor upon fulfilment of all SDL&I obligations at the end of the contract.
- Alternatively the Contractor shall submit a bond equivalent to 2.5% of the Contract Value and shall only be released to the Contractor upon fulfilment of all SDL&I Obligations

Section 5: Reporting and Monitoring

- The suppliers shall on a monthly/quarterly basis submit a report to Eskom in accordance with Data Collection Template on their compliance with the SDL&I obligations described above.
- Eskom shall review the SDL&I reports submitted by the suppliers within 60 (sixty) days of receipt of the reports and notify the suppliers in writing if their SDL&I obligations have not been met.
- Upon notification by Eskom that the suppliers have not met their SDL&I obligations, the suppliers shall be required to implement corrective measures to meet those SDL&I obligations before the commencement of the following report, failing which Retention clauses shall be invoked.
- Every contract shall be accompanied by the SDL&I Implementation Schedule which must be completed by the suppliers and returned to SDL&I representative for acceptance 28 days after contract award. This will be used as a reference document for monitoring, measuring and reporting on the supplier's progress in delivering on their stated SDL&I commitments

Section 6: Market Research

The following information demonstrates market analysis and assisted in arriving at the targets above.

N/A

Section 7: General Information on Validity of Sworn Affidavits

The following must be considered when it comes to validity of Affidavits;

Tenderers submitting B-BBEE Sworn Affidavits must ensure that the affidavits meet the following key pointers to ensure their validity:

Name/s of deponent as they appear in the identity document and the identity number.

Designation of the deponent as the **director, owner** or **member** must be indicated in order to know that person is duly authorised to depose of an affidavit. **(Mark the applicable option).**

Name of enterprise as per enterprise registration documents issued by the CIPC, where applicable, and enterprise business address.

Percentage of black ownership, black female ownership and designated group. In the case of specialised enterprises as per Statement 004, the percentage of black beneficiaries must be reflected. **(No blank spaces to be left).**

Indicate total revenue for the year under review and whether it is based on **audited financial statements** or **management account**. **(Mark the applicable option).**
Financial year end as per the **enterprise's registration documents**, which was used to determine the total revenue.
(Financial year end to be stipulated by **day/month/year**).
B-BBEE Status level. An enterprise can only have one status level. **(Tick applicable level)**
Empowering supplier status must be indicated. For QSEs, the deponent must select the basis for the empowering supplier status.
Date deponent signed and date of Commissioner of Oath must be the same. **(The sworn affidavit must be signed in the presence of the Commissioner of Oath. Furthermore the Commissioner must also sign and stamp)**
Commissioner of Oath cannot be an employee or ex officio of the enterprise because, a person cannot by law, commission a sworn affidavit in which they have an interest.

4.2 Plant and Materials

4.2.2 Quality

- All quality control and assurance documentation is submitted to the *Employer* for approval prior to manufacturing, for review prior to commissioning and for final acceptance upon handover.
- For quality control and assurance documentation requirements, see Section 3.8.4.

4.2.1.1 Plant Codification and Configuration Management

- Plant codification is done according to the KKS system as used at Kendal Power Station and specified in the *Employer's* standard (The *Employer* supplies codification for all new equipment which forms part of the *works*).
- The *Employer* assists the *Contractor* in identifying suitable codification descriptions for new equipment and signals.
- The codification and descriptions for all new equipment is handed to the *Employer* for acceptance during the Engineering phase of the project.
- The *Contractor* updates the *Employer's* Cable database to reflect all newly installed cables
- The *Contractor* completes and submits all cataloguing documentation using the *Employer's* templates ensuring that all recommended spares are correctly catalogued within the *Employer's* SAP system

4.2.1.2 Plant Labelling

- Labelling of all equipment which forms part of the works is the responsibility of the Contractor and adheres to the technical specification for KKS as stipulated in the *Employer's* standard
- The relevant KKS code is included on the label according to the required format, together with the plant description.
- The Contractor ensures that equipment labelling does not interfere with future maintenance and commissioning activities. If not possible, the label is fitted such that it is able to be removed and to be replaced without damaging the label.
- All labelling and inscriptions are submitted for acceptance to the *Employer* prior to label manufacturing (wording of all labels and inscriptions as well as prototype labels).

4.2.2 Plant and Materials provided "free issue" by the *Employer*

- All Plant and Materials required to fulfil the requirements of this Works Information are to be provided by the *Contractor*.

4.2.3 *Contractor's* procurement of Plant and Materials

- All warranties for the equipment, standard software and application software provided are included as part of the *works*.
- All warranties are in the name of Kendal Power Station.
- Warrantee period of 1 (one) year per Unit starting from the date of the respective Unit acceptance by the *Employer*
- This warranty period does not change/negate the fact that it is the sole responsibility of the Contractor to provide a fully functioning system at handover however long the hardware has

been stored on site and to rectify all defects during the defects period without additional cost to the *Employer*.

- Long lead items are procured with sufficient time to ensure delivery, installation, setup and commissioning within the agreed schedule.
- All Plant and Material for the Unit and Simulator HMI and network are provided by the *Contractor*.
- The *Employer* must be capable to maintain the systems that form part of the *works* with respect to spares after the Defects date. This means that spares will be kept at Kendal Power Station.
- The *Contractor* shall ensure standardisation i.e. equipment across all units are exactly the same.

4.2.4 Spares and consumables

- The *Contractor* keeps sufficient spares and consumables to maintain the whole of the works up to the Defects Date to meet the availability requirements as specified in Sections 3.2.7, 3.2.8, 3.2.9 and 3.2.10.
- No plant spares or equipment are removed, by the *Contractor*, from other installed areas nor taken from stock of areas not yet installed which form part of the works, if it impacts negatively on the Accepted Programme or affects the *Employer's* plant operations. The *Employer's* acceptance is obtained prior to such removal.

5 Tests and inspections before delivery

5.1 Factory Acceptance Testing (FAT)

- Factory Acceptance Testing (FAT) will be performed at the *Contractor's* parent companies facility and witnessed by the *Employer* unless the *Contractor's* local facility is fully capable of meeting the FAT requirements, in which case, FAT will be performed in South Africa.
- The *Contractor* will demonstrate that the Sootblower PLC meets the requirements set out in the *Works Information*. The FAT for subsequent Units will be performed at the *Contractor's* parent company facilities or locally.

5.2 Contractor's Equipment (Including temporary works)

- The Contractor will supply all equipment required for the completion of the works.

6 Construction

6.1 Temporary works, Site services and construction constraints

- The Contractor applies for access permits for all works exceeding four (4) weeks via the Project Manager, who will co-ordinate the works.
- The Contractor applies for Contractor's Permits for all his employees at the security gate, at least 24 hours prior to entry of the Kendal Power Station Security Area.
- c) The Contractor shall complete and submit the access form for all personnel that he intends on using on site once they have completed the Kendal SHEQ Induction
- The completed list, identified with the Contractor's name, contains the following information
 - ✓ Employee name
 - ✓ Employee ID Number
 - ✓ Eskom Safety Co-ordinator signature
 - ✓ Eskom Project Manager signature
 - ✓ Validity Date
- No permits are issued to personnel who have not attended safety induction.
- The Contractor photocopies the first page of the ID book of every one of his employees.

- This completed list, together with the photocopies of the ID books is delivered to Protective Services for the preparation of the Contractor's Permits.
- The Contractor allows at least 24 hours for the preparation of the security permits, before he collects the permits from the Protective Services offices.
- The Contractor's personnel are required to be in possession of a Contractor's Permit at all times inside Kendal Power Station.
- All Contractors' permits are submitted back to Protective Services when the workers leave the site after completion of the works. Failure to return the permits will result in a penalty for each non- returned permit.
- The Contractor compiles a detailed Tool Lists (obtainable from Protective Services) of all tools and equipment to be taken on site before arriving at the power station.
- Authorised copies of these lists are retained to be used again when the tools and equipment is removed from site.
- The Contractor's visitors and all personnel conform to the security arrangements in force at Kendal Power Station.
- Application forms for visitors are filled in by the Contractor's Site Manager and approved by the Project Manager, and submitted to the Employer's Protective Services office one day prior to the visit.
- Visitors will not be allowed on site if the necessary forms are not in the possession of security staff.
- The Chief Security Officer may, with valid cause, remove any of the Contractor's personnel from the site, either temporarily or permanently. He may deny access to the site to any person whom, in the opinion of the said Chief Security Officer, constitutes a security risk.
- No unauthorised vehicles will be allowed on site. Only Contractor's vehicles with displayed Contract Vehicle Permits Disks will be allowed on site. Contractor Vehicle Applications are directed to the *Project Manager* for consideration and approval.
- The *Contractor* is restricted to the Site where the work is to commence. The *Contractor* is forbidden to enter any other areas and ensures that his employees abide by these regulations.
- No recruiting of casual labour may be done on Eskom premises, including the area outside the Power Station Security Gate.
- Security personnel may search any premises, property or person within the security area of Kendal Power Station
- No Photographic equipment will be allowed within the security area of the Power Station without obtaining permission. Application forms for such permission is available from the Protective Services offices. Any person found in possession of such equipment will be prosecuted in terms of the National Key Point Act.
- No firearms, weapons, alcohol, or illegal substances are permitted on Site.
- No 'Private Work' is carried out for or on behalf of any Eskom employee.
- Any person suspected of being under the influence of alcohol is tested and if proven positive, is refused entry to the security area.

6.1.1 Employer's Site entry and security control, permits, and Site regulations

- The *Contractor* shall comply with Kendal Power Station access requirements as prescribed during induction.
- The *Contractor* shall submit names of all personnel and subcontractor's to the *Project Manager* for temporary access permits approval.
- The *Employer* will provide perimeter security and access control for Kendal Power Station. Strict access control shall be implemented 24 hours a day at all entrances to Kendal Power Station. All persons and vehicles entering or exiting the site may be subjected to searches and the *Employer* reserves the right to refuse entrance to Kendal Power Station to any person not meeting security and/or access requirements. Any breach of security must be reported to the *Employer* immediately.

6.1.2 Restrictions to access on Site, roads, walkways and barricades

- All the *Contractor's* personnel are subject and to conform to the *Employer's* and, where applicable to Kendal Power Station's security system and processes.
- A valid SA identity document or a valid passport in respect of foreign nationals is required for a security permit to gain access to the *Employer's* premises.
- The violation of any security measurement will result in the withdrawal of access permits.
- The *Contractor* remains accountable and responsible for the retrieval and return of all the *Employer's* security permits upon expiry of the permits.

6.1.3 People restrictions on Site, hours of work, conduct and records

- The *Contractor* is obliged at all times to maintain a harmonious relationship and co-operates with the *Employer* and all its suppliers and sub-suppliers or their employees who may be involved.
- Working hours at Kendal Power Station is from 07:15 till 16:30, Monday to Thursday and 07:15 to 12:15 on a Friday. However, the *Contractor* would be expected to work on weekends during outages. The *Contractor* is not obliged to follow the same working hours, but needs to submit his proposed working hours to the *Project manager* for approval.

6.1.4 Health and safety facilities on Site

- The *Contractor* provides a First Aid service to his employees. In the case where these prove to be inadequate, like in the event of a serious injury, the *Employer's* Medical Centre and facilities will be available. The *Employer* shall be entitled, however, to recover the costs incurred, in the use of the above *Employer's* facilities, from the *Contractor*.
- Outside the *Employer's* office hours, the *Employer's* First Aid Services will only be available for serious injuries and life threatening situations.
- The *Contractor* to ensure that qualified and competent First Aiders and Emergency Care staff is permanently on site and at the actual construction site for emergency situations.
- The *Contractor* or his staff shall not move the injured party from the incident position and site unless the person's life is in danger or the person is moved by a qualified and trained Emergency Care Worker.
- In the event that the Evacuation Alarm or Fire Alarm sounds, all persons will assemble at the nearest emergency assembly point until the All-clear Alarm sounds.

6.1.5 Environmental controls, fauna & flora, dealing with objects of historical interest

- The *Contractor* shall comply with the environmental criteria and constraints stated in Kendal Environmental Management Plan (EMP) as updated.

6.1.6 Co-operating with and obtaining acceptance of Others

- The *Contractor* shall co-operate with others in obtaining and providing information which they need in connecting with the *works*.
- The *Contractor* shall share the working area with others in executing the works.

6.1.7 Publicity and progress photographs

- Should publicity and or progress photographs be required an application shall be made via the *Project Manager*.

6.1.8 Contractor's Equipment

- All the equipment that is required to perform any work will be supplied by the *Contractor*.
- The *Contractor's* equipment may not impair operation or prevent access to site.
- The *Contractor* must provide all or any temporary facilities for the storage of material and equipment.
- The *Contractor's* attention is drawn to the applicable regulation framed under the Machinery and Occupational Safety Act, 1983 (Act No. 6 OF 1983)
- When working in built-in areas, the *Contractor* shall provide and use suitable and effective silencing devices for pneumatic tools and other plants that would otherwise cause a noise level

exceeding 85 Db(A) during excavation and other works. Alternatively, the *Contractor* shall by means of barriers, effectively isolate the source of any such noise in order to comply with the said regulation.

- Any equipment used by the *Contractor* must conform to the OHS Act Safety Standards and must be kept in a good working condition. The *Project Manager* has the right to stop any work if in their opinion the equipment does not comply.
- The *Contractor* removes equipment from site when it is no longer used unless the *Project Manager* allows it to be left in the works.
- The *Contractor* shall register all their equipment and declare all their belongings at the security gate upon arrival. Unregistered belongings upon arrival will not be allowed to be removed offsite.

6.1.9 Equipment provided by the *Employer*

- None

6.1.10 Site services and facilities

a) Electrical power supply

- Power is available at the existing points free of charge.
- The *Employer* does not guarantee continuity of supply and no claims for standing time as a result of power failures will be considered.
- The *Contractor* provides his own portable 380V electrical distribution boards, and supply cables to and from the boards, for all his power supply requirements to execute the works.
- Contractors' Electrical Distribution Boards complies with OHSA as referred to in the Electrical Installation Regulations and the Electrical Machinery Regulations.
- Each board brought onto site has a Certificate of Compliance (CoC) issued by an accredited person.
- The *Contractors'* electrical distribution boards are installed at the works on a time negotiated with the Supervisor, prior to the possession date.
- The *Employer* connects the distribution boards to a 380V three-phase Alternating Current (AC) power supply, only after the *Contractor* has submitted the valid Certificate of Compliance.
- All Contractors' Electrical Distribution Boards are earthed to the steel structure of the plant.

b) Potable water supply

- Potable water is available at the existing points.

c) Toilet facilities

- The *Employer* provides the *Contractor* access to existing toilet facilities.

d) Dining facilities

- The *Contractor* is not allowed to use the *Employer's* dining facilities, unless a specific agreement has been made between the *Contractor* and Eskom Catering and Accommodation Services (ECAS)

6.1.11 Facilities provided by the *Contractor*

- All transport i.e L.D.V.'s
- All tools must be provided by the *Contractor* for the works.
- All workshop machinery must be provided by the *Contractor* for the works.
- All office equipment must be provided by the *Contractor* for the works
- Telephone bills will be paid by the *Contractor*.
- The *Contractor* must provide working procedures for each activity to the *Employer's Representative* at least 2 weeks before work may proceed. This procedure will include "Safe working procedures".

- The *Contractor* must provide all the material needed for the works. The safeguarding, care and security of all equipment and materials while the *Contractor* is performing the works is the responsibility of the *Contractor*.
- All redundant *Contractors'* material must be moved to allocated sites. Scrap must be cleared of site daily.

6.1.12 Control of noise, dust, water and waste

- The *Contractor* is responsible to keep the work area clean at all times and comply with general good housekeeping procedures.
- It is the *Contractor's* responsibility to dispose of all steel at Kendal's designated area.
- The *Contractor* shall take all necessary steps to minimise dust and noise pollution during construction

6.1.13 Giving notice of work to be covered up

- All work must be inspected by the *Project Manager* and Engineer before it may be covered up

6.2 Erection and Installation

6.2.1 Site Testing

- The *Contractor* prepares a detailed test procedure for the SAT and SIT.
- The SAT is performed by the *Contractor* after delivery and installation of the *works*
- The SAT is performed to prove functionality of the Security system after delivery and before hand over to the *Employer*.
- The SAT is performed after the relevant hardware and software is properly installed in its final position, including cabinets, internal components, cables, wiring and power supplies.
- Visual and mechanical inspections are conducted on the security system, including cabinets, trunking and power cables terminated and entering the cabinet as per the design.
- The SIT is carried out by the *Contractor* before plant commissioning commences to ensure:
- Correct performance of the security system including but not limited to:
 - a. Communication networks
 - b. Monitoring functionality
 - c. Administration functionality
 - d. Safety of plant and personnel.
- Compliance with the *Works Information* and the detailed engineering design freeze documentation.
- The SIT procedure may be carried out in conjunction with the SAT.
- In the event of an error in any test (hardware or software) the fault is logged, analysed and resolved by the *Contractor*.
- The *Contractor* is allowed to rectify the fault and retest for the full duration on condition that the *Project Manager* finds the fault to be minor.
- Major faults such as Process Server failure, System stall and network failure or major faults as determined by the *Project Manager* may lead to the termination of the SIT.
- The *Contractor* rectifies the fault and re-starts the SIT after proving the compliance and performance of the rectified piece of equipment by carrying out the appropriate diagnostic tests

6.2.1.1 Site Acceptance Testing Procedure

- The *Contractor* prepares a detailed test procedure for the SAT.

As a minimum, the proposed SAT procedure identifies the following:

- ✓ Major test activities
- ✓ Comprehensive list and description of the individual tests to be performed
- ✓ How the tests are to be prepared and conducted
- ✓ Test dates and durations

- ✓ Checklists - how the test results will be documented
- ✓ Acceptance Criteria
- ✓ How the identified discrepancies will be processed
- ✓ Retesting requirements

6.2.1.2 Site Integration Testing Procedure

The *Contractor* prepares a detailed test procedure for the SIT for acceptance by the *Employer*. The SIT testing and inspection activities provided by the *Contractor* consist of:

- ✓ Site integration and site acceptance activities defined in IEC 62381

As a minimum, the proposed SIT procedure identifies the following:

- ✓ Major test activities
- ✓ Comprehensive list and description of the individual tests to be performed
- ✓ How the tests are to be prepared and conducted
- ✓ Test dates and durations
- ✓ Checklists - how the test results will be documented
- ✓ Acceptance Criteria
- ✓ How the identified discrepancies will be processed
- ✓ Retesting requirements

6.2.2.3 Site Testing Completion

A Final SAT & SIT Report is prepared by the *Contractor* that includes the following as a minimum:

Test procedures used during SAT & SIT.

- ✓ Detailed Test results for SAT & SIT
- ✓ Discrepancies identified during the tests
- ✓ Resolution of the discrepancies
- ✓ Retests conducted and results thereof
- ✓ SAT and SIT certificate
- ✓ The *Contractor* submits the Final SAT & SIT Report to the *Project Manager* for acceptance.
- ✓ When all tests are successful and the Final SIT Report is accepted by the *Project Manager*, the system is classified as 'ready for use'. The system is then deemed ready for commissioning.

6.2.3.4 Hardware and Software Version Control

- ✓ The *Contractor* develops and establishes a proper hardware and software version control procedure to ensure that all Units and the simulator are at the same hardware and software version at final hand-over of the whole of the *works*.
- ✓ The *Contractor* obtains the *Employer's* acceptance of the control procedure which documents the hardware and software versions supplied as part of the *works*.
- ✓ The procedure makes provision for progressive updates as a result of software patches and version updates that become available for implementation on the delivered software until the completion of the whole of the *works*.

6.3 Completion, testing, commissioning and correction of Defects

6.3.1 Work to be done by the Completion Date

On or before the Completion Date the *Contractor* shall have done everything required to Provide the Works except for the work listed below which may be done after the Completion Date but in any case before the dates stated. The *Project Manager* cannot certify Completion until all the work except that listed below has been done and is also free of Defects which would have, in his opinion, prevented the *Employer* from using the *works* and *Others* from doing their work.

	Item of work	To be completed by
	As built drawings of the Security System	Within 10 days after Completion
	Performance testing of the <i>works</i> in use as specified in all sections applicable to testing of this Works Information.	See performance and all other testing requirements.

6.3.2 Use of the works before Completion has been certified

The *Employer* uses the works to return the system in order to commission and perform the Site Acceptance and Operational testing of the security system before Completion of the section of the works that constitutes “Area complete”.

The *Employer’s* use of the works, until Completion of the Site Acceptance and Operational tests, it not deemed taken over until the *Project Manager* certifies Completion of the section of the *works* that constitutes “Area complete” for each security system in the respective areas.

6.3.3 Commissioning

6.3.3.1 General Requirements

The *Contractor* submits the commissioning test results to the *Project Manager*.

The *Contractor* is responsible for the commissioning (re-testing) of the Security Systems.

The commissioning activities are carried out in conjunction with the *Project Manager*.

Commissioning is at the discretion of the *Project Manager* for Plant which cannot be commissioned separately to the project works.

In cases where various components (existing or new) are connected to form an integrated system, the *Contractor*, at the time of commissioning, carries the responsibility for the correct functioning of the whole of the system.

If a defect is identified in the plant interfacing to, or external to the *Contractor’s* scope the *Contractor* informs the *Project Manager* or *Representative(s)* immediately.

7 Plant and Materials standards and workmanship

7.1 Civil engineering and structural works

The Contractor shall assess the existing computer room floors in order to ensure that these are capable of carrying the weight of the new equipment. It is highly unlikely that the new equipment’s weight will differ significantly from the existing equipment hence only very brief assessment is required.

List of drawings

7.1 Drawings issued by the *Employer*

The *Employer* will issue the drawings at or before the Contract Date and which apply to this contract.

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Legend for the contract persons under the NEC Family of Contracts:

Form of NEC Contract	Eskom Holdings Limited	The contract person representing Eskom Holdings Limited	The Contracting Party	Tick ✓ and highlight the box applicable to this Contract
ECC3 – The Engineering and Construction Contract	<i>The Employer</i>	<i>The Project Manager</i>	<i>The Contractor</i>	
ECSC3 – The Engineering and Construction Short Contract	<i>The Employer</i>	<i>The Employer's Representative</i>		
TSC3 – The Term Service Contract	<i>The Employer</i>	<i>The Employer's Representative</i>		✓
TSSC3 – The Term Service Short Contract	<i>The Employer</i>	<i>The Employer's Representative</i>	<i>The Contractor</i>	
PSC3 – The Professional Services Contract	<i>The Employer</i>	<i>The Employer's Agent</i>	<i>The Consultant</i>	

Legend for the contract persons under the Eskom Holdings SOC Limited Contracts:

Form of Eskom Holdings SOC Limited Contract	Eskom Holdings SOC Limited	The contract person representing Eskom Holdings Limited	The Contracting Party	Tick ✓ and highlight the box applicable to this Contract
Eskom's Standard Condition of Tendering	<i>The Purchaser</i>	<i>The End user</i>	<i>The Supplier</i>	
SC3 – The Supply Contract	<i>The Purchaser</i>	<i>The Purchaser's Representative</i>	<i>The Supplier</i>	✓

1. The Contracting Party notes and complies with the following:

- Eskom Holdings Limited reserves the right to have any of the Contracting Party's personnel removed from site without cancelling the contract if, in Eskom Holdings SOC Limited's opinion, it is warranted.
- Eskom Holdings SOC Limited reserves the right to request disciplinary/corrective action if, and when, required.
- The Contracting Party operates under the direction and instructions of the Kendal Power Station Manager or such person/s as may be appointed by him if not in conflict with the Occupational Health and Safety Act and the Generation Plant and Safety Regulations.
- The Contracting Party maintains a high standard of workmanship expected by Eskom Holdings SOC Limited and complies with any quality assurance and quality procedures implemented by Eskom SOC Holdings Limited.
- The Contracting Party provides all overalls for his staff with clearly identifying motifs.
- The Contracting Party provides the necessary supervision to ensure that activities are conducted safely.

2. Security Arrangements:

- The Contracting Party applies for a photo permit (if on site for longer than two- (2) months) at Protective Services at the Kendal Power Station main security gate, prior to the start of any work on site.
- All Contracting Party's personnel are issued with a temporary access permit if not on site for at least two- (2) months which contains the following information:
 - Name
 - ID Number
 - Company

- Validity date
- c) In order to assist Protective Services with the issuing of permits and the identification of personnel on site, the Contracting Party supplies a list of all personnel that he intends using on site, at least 24-hours prior to entry of the Kendal Power Station Security Area. This list is hand delivered to Protective Services, or can be faxed to (013) 647-9100. The list, identified with the Contracting Party's name, contains the following information:
 - Employee name
 - Employee ID Number
 - Signature of the contract person representing Eskom Holdings SOC Limited
 - Copy of the first page of the ID book of every employee of the Contracting Party
- d) The list of details is completed on the special form attached to the Contractor's Safety Manual, available on request from the contract person representing Eskom Holdings SOC Limited.
- e) The Contracting Party's personnel are required to be in possession of their Contractor's Permits at all times.
- f) All Contractor Permits are submitted to Protective Services when the relevant personnel leave the site after completion of the work.
- g) Lost permits are paid for by the Contracting Party to Protective Services at a cost of R200,00 per lost permit.
- h) The Contracting Party's visitors and all personnel conform at all times, to the security arrangements in force at the time. Application forms for visitors are filled in by the Contracting Party's Site Manager and approved by the contract person representing Eskom Holdings SOC Limited, one- (1) day before the visit and submitted to the Protective Services office. Visitors are not allowed on site if the necessary forms are not in the possession of security staff.
- i) The Chief of Protective Services may with valid cause remove any of the Contracting Party's personnel from the site, either temporarily or permanently. He may deny access to the site to any person, whom, in the opinion of the said Chief of Protective Services, constitutes a security risk.
- j) No unauthorised vehicles are allowed on site. Only the Contracting Party's vehicles with displayed Contract Vehicle Permit disks are allowed on site. Contract Vehicle Permit applications are directed to the contract person representing Eskom Holdings SOC Limited.
- k) The Contracting Party is restricted to the areas associated with his place of work. The Contracting Party is forbidden to enter any other areas, and ensures that his employees, subcontractors and/or sub consultants abide by these regulations.
- l) Parking inside the Kendal Power Station building is strictly forbidden, except for loading and off-loading purposes.
- m) No recruiting of labour, casual or otherwise, may be done on the Kendal Power Station premises, including the area outside the Kendal Power Station main security gate.

Health and Safety:

2.1.Plant Safety Regulations:

- a) Eskom Holdings SOC Limited, on request from the Contracting Party, isolates required plant from all sources of danger as described in the Plant Safety Regulations
- b) Eskom Holdings SOC Limited, on request from the Contracting Party, makes available a copy of the latest revision of the Plant Safety Regulations to the Contracting Party.
- c) The Contracting Party conforms to all rules and regulations applicable to Plant Safety and completes the Workman's Register prior to working on the plant.

2.2. Fire Precautions:

- a) Any tampering with Eskom Holdings SOC Limited's fire equipment is strictly forbidden.
- b) All exit doors, fire escape routes, walkways, stairways and stair landings and access to electrical distribution boards are kept free of obstruction and are used for work or storage at any time. Fire fighting equipment remains accessible at all times.
- c) In case of fire, report the location and extent of the fire to the Kendal Power Station Electrical Operating Desk at 6795/6/7.
- d) Take the necessary action to safe guard the area to prevent injury and spreading of the fire.

2.3. Reporting of accidents:

Eskom Holdings SOC Limited follows an accident prevention policy that includes the investigation of all accidents involving personnel and property. This is done with the intention of introducing control measures to prevent a recurrence of the same incidents. The Contracting Party is expected to co-operate fully to achieve this objective. The Contractor shall notify the client of any incident occurring during the contract period preferable immediately/ before end of the shift and therefore submit the notification of the incident by means of flash report within 24 hours.

NOTE: This report does not relieve the Contracting Party of his legal obligation to report certain incidents to the Department of Labour, or to keep records in terms of the Occupational Health and Safety Act, and Compensation for Occupational Injuries and Diseases Act and Eskom incident management procedure 32-95.

2.4. Speed limit:

All vehicles are driven with due consideration for personnel and property. A maximum speed limit of 40 km per hour is adhered to on the Kendal Power Station premises at all times.

2.5. Health and Safety Arrangements:

- a) The Contracting Party ensures that all his personnel attend a Health and Safety Induction Course prior to starting with the work. A SHEQ induction session is provided by Eskom Holdings SOC Limited and is valid for the duration of one- (1) year.
- b) The Contracting Party complies with the guidelines set out in the provided SHE specification. The Contracting Party shall submit a health and safety file to the client for evaluation and approval by the Safety Risk Department before taking access of the areas associated with his place of work.
- c) Kendal Power Station Safety Risk Management reserves the right and authority to visit and inspect the Contracting Party's workplace or site establishment to ensure that tools, machinery and equipment comply with the minimum safety requirements.
- d) The contract person representing Eskom Holdings SOC Limited may instruct the Contracting Party to stop work, without penalty to Eskom Holdings Limited, where the Contracting Party's personnel fail to conform to safety standards or contravene health and safety regulations. The contract person representing Eskom Holdings SOC Limited may cause the Contracting Party to discipline his employees and to submit a disciplinary action report to Eskom Holdings SOC Limited. The Contracting Party implements additional health and safety precautions where necessary.
- e) The following Health & Safety requirements are also complied with:
 - i) The Contracting Party's proof of registration with the Compensation Commissioner and assessment of payment is verified.
 - ii) The Contracting Party demonstrates that all of his/her employees have been made aware and understand the risks and hazards associated with the type of work or activity to be carried out.
 - iii) The Contracting Party shall ensure that all employees performing work under his management have been trained and are competent to perform any work allocated to them.
 - iv) The Contracting Party demonstrates to Eskom Holdings SOC Limited that he/she is capable of providing adequate free issue (preferably SABS approved) Personal Protective Equipment (P.P.E.) for use by his employees.
 - v) The Contracting Party obtains an Eskom OHS Act section 37(2) agreement to be signed at procurement during the signing of the NEC contract, it is the responsibility of the project manager to ensure that the 37(2) agreement is signed and a copy be kept in the contractor file at procurement.
 - vi) Contractors - the Principal Contractor (Contracting Party) states if the use of contractor/s are envisaged and who the contractor/s are.
 - vii) Noisy equipment and tools - no equipment or tools > 105dB (A) are supplied or used by the Contracting Party.
 - viii) Contractors - the Principal Contractor (Contracting Party) states if the use of contractor/s are envisaged and who the contractor/s are. Proof is provided to Eskom Holdings SOC Limited that the sub-contractor/s has the necessary competence and resources to carry out the work safely and to ensure that the obligation of care to the environment is exercised.
 - ix) The Contracting Party complies with medical examination processes.

2.6. Vehicle and driver safety

All drivers, passengers and pedestrians must obey all vehicle safety requirements in terms of the National Road Traffic Act, Act No 93 of 1996, as amended, including other relevant provincial or local requirements.

Transportation of passengers

- a) The contracting party shall comply with requirements National Road Traffic Act an OHSA act.
- b) All motor vehicles driven / operated by contractors within the contract shall, in all respects, comply with the National Road Traffic Act.
- c) Eskom does not approve the conveying of passengers in the back of vehicles designed to carry equipment/loads (any truck/trailer), irrespective of whether crew cabs are fitted and seating with four-point seat belts is fitted. Eskom procedure 240-62946386.

2.7. Eskom Life Saving Rules:

- a) Five Life Saving Rules have been developed that will apply to all Eskom Holdings SOC Limited employees, agents, consultants and contractors.
- b) Due to the importance to save life's and apparatus of Eskom it is recommended that if a contractor abuse any Life saving rules, the affected work allocated to the contractor will immediately put on hold until final outcome with investigation. Safety is the combined responsibility of the team and therefore team leader or team will be disciplined together. There are five life saving rules that may not be broken by the Team Leader and his/her team.

The five Eskom Life saving Rules are as follows:

- **Rule 1:** Open, Isolate, Test, Earth, Bond, and/or Insulate before touch - that is any plant operating above 1 000 V.
- **Rule 2:** Hook up at heights - no person may work at height where there is a risk of falling.
- **Rule 3:** Buckle up – no person may drive any vehicle on Eskom business and/or on Eskom premises unless the driver and all passengers are wearing seat belts.

Eskom takes a "ZERO TOLERANCE" attitude to drivers and passengers who do not wear safety belts when driving in any vehicle on Eskom Business and/or on Eskom premises. The violation of this very important safety rule as well as any safety rule while performing work for or on behalf of Eskom may result in Eskom terminating your obligation to perform work in terms of your contract with Eskom.

All occupants must wear their safety belts properly, and must never put the shoulder belt under their arm or behind their backs. Drivers and all passengers must buckle-up at all times for the sake of themselves and their families.

- **Rule 4:** Be sober (no person is allowed to work under the influence of drugs or alcohol).
- **Rule 5:** Use a permit to work – where an authorization limitation exists, no person shall work without the required permit to work.

2.8. Thermal and Flash Suits – Personal Protective Equipment (If applicable)

The following Health & Safety requirements are also complied with:

- a) **Policy:**
Generation Policy GGP 36-941 Rev 0 – "SAFETY MEASURES AND APPROVED PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT AGAINST THERMAL HAZARDS OF AN ELECTRIC ARC FOR METAL CLAD SWITCHGEAR (UP TO 11Kv) NOT INTERNAL ARC PROOF" was issued in February 2008, and all Generation BU's are to comply with it.

b) Standard:

Standard GGS 36-941 Rev 0 - "SAFETY MEASURES AND APPROVED PROTECTIVE CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT AGAINST THERMAL HAZARDS OF AN ELECTRIC ARC FOR METAL CLAD SWITCHGEAR (UP TO 11Kv) NOT INTERNAL ARC PROOF" was issued in February 2008, and sets out the requirements to ensure safety with this plant.

c) Procedure:

A proper Procedure is required at each Station to ensure that all involved and affected staff are fully aware of the dangers attached to MV and LV Switchgear, and the approved methods of managing the risks involved.

For externally mounted Switchgear, GGS 36-942 prescribes the following standard Flash Protection Boundaries:

FLASH PROTECTION BOUNDARY	
VOLTAGE (VOLTS)	DISTANCE (METERS)
50 TO 750	0.9
750 TO 1,000	1.2
1,000 TO 11,000	4.8

2.9. Plant Safety Regulations - Appointment of a Responsible Person, Appointed Person and/or an Authorised Supervisor (36-681)

The OHSA states that anyone entering Eskom Holdings SOC Limited's premises must adhere to its set of regulations, i.e. Plant Safety Regulations, as Eskom Holdings SOC Limited is responsible for the Contractor's safety while they are on Eskom Holdings SOC Limited's sites.

It is required that all Contractors must appoint a Responsible Person or an Authorised Supervisor to supervise work done by the Contracting Party.

An Appointed Person can be appointed by the Contracting Party to do isolations if required.

2.9.1. Process to appoint a Responsible Person, Appointed Person and/or Authorised Supervisor

The Contracting Party will identify a person who will represent him as a Responsible Person, Appointed Person and/or an Authorised Supervisor. The Contracting Party may send more than one person for training.

The appointed person/s will be trained by Eskom Holdings SOC Limited. There are two Formal sets of training, i.e. Theoretical Training and Practical Training

2.9.2. Training

i) Practical training

The Contracting Party will send a representative for training to become a Responsible Person, an Appointed Person and/or an Authorised Supervisor to be instructed in the Practical aspects of the plant, Isolations, Plant Identification, Plant systems etc.

ii) Theoretical training

During his practical training period, the representative of the Contracting Party must attend a theoretical course of 5 days for a Responsible Person and 2.5 days for an Authorised Supervisor. From the time that the person has written the Exam for the theoretical test to the time that he must appear before the Authorisation Committee is three months.

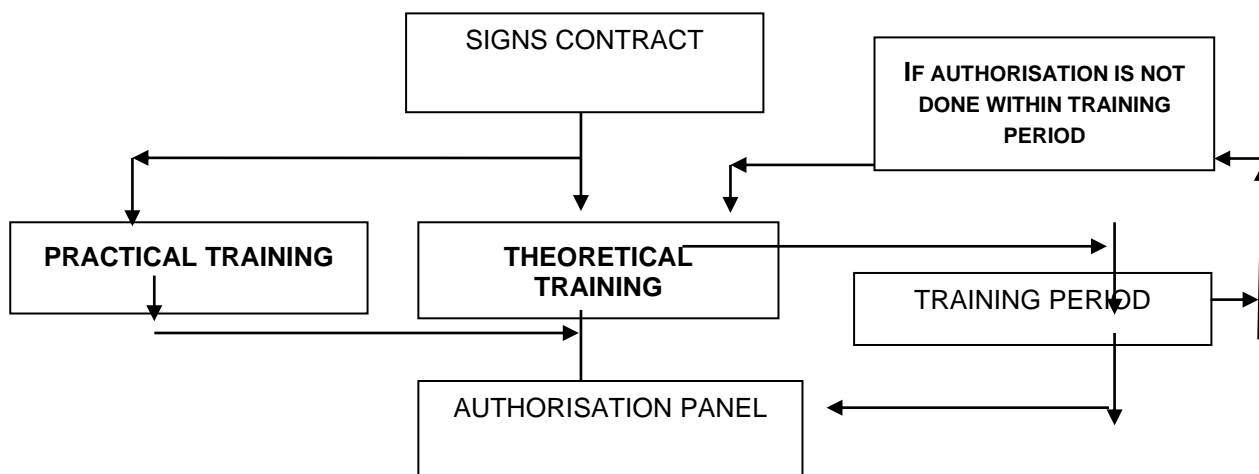
If he does not appear before the Authorisation Committee during the three months, he must redo the theoretical exam.

The duration and cost for Practical and Theoretical training, as a package, will be determined by Ms Matshego Koto (Legislation Instructor – Kendal Power Station).

He can be contacted at +27 13 647 6999, to arrange for training.

The costs will be handled as a compensation event.

2.9.3. Training process



2.9.3.1 Costs related to training

The Contracting Party will be responsible for all costs related to the training. The costs must be shown separately in the price list.

2.9.3.2 Accreditation and validity period and area

A certificate will be issued to the Responsible Person, an Appointed Person and/or an Authorised Supervisor which will be valid for 2 years and it will only be applicable to Kendal Power Station.

If a person who is authorised moves from one Contracting Party to another, his/her authorisation automatically lapses.

2.9.3.3 Contact Person - Kendal Power Station

Ms Matshego Koto (Legislative Instructor - Kendal Power Station) is the custodian at Kendal Power Station for the above training and accreditation and he can be contacted at Tel +27 13 647 6999.

No work will be done at Kendal Power Station by the Contracting Party if she did not appoint an accredited Responsible Person for Kendal Power Station.

2.10. Authorisation of contractors in term of ORHVS (Operating Regulations for High Voltage Systems) and PSR (Plant Safety Regulations):

Eskom Holdings SOC Limited employs many contractors to work not only on new installations but to a greater extent on existing plant and networks and the contractors are therefore required to comply with Eskom Holdings SOC Limited's relevant regulations.

To enable contractor's staff to be authorized as responsible persons or other authorizations in terms of the ORHVS, PSR, and Directive ESKADAAU4 there has been much speculation as to what the requirements are in terms of the OHS act.

In order to clarify these issues, many discussions with our Legal department and consulting advocates had taken place and the following are minimum requirements to ensure that reasonable steps are taken.

1. It is absolutely necessary at the outset to stipulate in the tender documents what the requirements are in terms of the ORHVS and PSR. These requirements must include (inter alia):
 - Competencies required of the contractor or their employees.
 - What knowledge of the ORHVS and PSR parts thereof, is required by the relevant persons.
 - The scope of the contractor's responsibilities in terms of any authorizations.
 - What the contractor will be required to satisfy with respect to the requirements of the OHS Act.

2. Contracts shall include:
 - In terms of Section 37(2) of the OHS Act an agreement to ensure compliance by the mandatory with the provisions of the Act. It is not possible to quote a single standard that will cater for all contracts, each contract shall be handled on a case by case basis.
 - The above-mentioned requirements that were requested in the call for Tender.
 - The contractor's person designated in terms of Section 16 of the Act. The contractor shall also declare in writing their employees competent in terms of the relevant requirements.
3. Once a contract is awarded, the Eskom Holdings SOC Limited person designated in terms of the General Machinery Regulation 2, shall ensure the following before work in terms of the ORHVS and PSR is done.
 - The contractor or their employees shall be evaluated against the scope of authorization.
 - The Eskom Holdings SOC Limited regulations applicable to the scope of the work to be done shall be handed to the contractor. Depending on the nature of the contract it may be beneficial for the contractors person/s requiring authorization to attend the relevant formal regulation course.
 - With regard to the actual authorization the contractor shall declare in writing their Section 16 appointee competent and define the extent of his responsibility. The Eskom Holdings SOC Limited GMR2 appointee shall approve the acceptability of the contractor's Responsible Person (Section 16 appointee) or shall authorize any other duties in terms of the ORHVS and PSR
 - All authorizations shall be for specific contracts and limited to a specific time frame.
 - Notwithstanding the Section 37(2) agreement that was concluded between Eskom Holdings SOC Limited and the contractor, Eskom Holdings SOC Limited is not absolved from a "Duty of Care" requirement over the "mandatory". This implies that for example, when contractors are working on, or in close proximity to Eskom Holdings SOC Limited's live apparatus they shall be supervised to the extent of what would be considered reasonable.

2.11. Barricading / Screens and Scaffolding:

The Contracting Party provides and installs barricades and warning devices to ensure that equipment and persons are not exposed to danger or to prevent access to dangerous areas. Eskom Holdings SOC Limited supplies scaffolding. Arrangements of such is made at least one- (1) week in advance by the Contracting Party. (Tampering of any approved scaffold is not allowed for any adjustments – The contract person representing Eskom Holdings SOC Limited is notified for any adjustments.

2.12. Asbestos (if applicable):

- a) All stripping of asbestos material shall be undertaken strictly in accordance with the Kendal Power Station management of asbestos and asbestos containing material work *1018298 and other relevant standards and updates, with special reference to the asbestos regulations according to the Occupational Health and Safety Act number 85 of 1993.
- b) The contract person representing Eskom Holdings SOC Limited advises the Contracting Party whether areas that are to be stripped of lagging have been identified as containing asbestos. If the Contracting Party is not sure whether lagging contains asbestos, he is to notify Safety Risk Management who will identify whether the lagging contains asbestos.
- c) The Contracting Party shall be obliged to ascertain from the contract person representing Eskom Holdings SOC Limited in advance whether areas required to be stripped are non-asbestos. Any contractor, other than the contractor appointed to remove asbestos shall strip lagging material containing asbestos fibres.
- d) The contractor appointed to remove asbestos, may not begin removal without first obtaining the necessary permission from the Inspector of Labour and Risk Management.

3. Construction/ Erection/ Maintenance work on site:

- a) The Contracting Party is responsible for the provision of all or any temporary or expendable materials required allowing for storage of material.
- b) The Contracting Party is responsible for the safeguarding, care and security of all items whilst in the Contracting Party's custody and control, until completion of the work.
- c) The Contracting Party is responsible for all craneage and equipment that is required to complete the work.

- d) The Contracting Party is responsible to check and verify correctness of civil work installed by others prior to commencement of installation/erection.
- e) The Contracting Party is responsible for the repair, replacement or correction as necessary of any and all items of plant and/or materials supplied by Eskom Holdings SOC Limited, which are damaged and/or lost while in the Contracting Party's custody and control.
- f) The site where the work was done must be clean when the Contracting Party leaves Eskom's premises.

5. Use of Eskom Holdings SOC Limited's Tools and Equipment:

- a) For the purpose of expediting the work, Eskom Holdings SOC Limited may make facilities and services available to the Contracting Party at no cost to the Contracting Party. The Contracting Party will not receive any reimbursement or make any change to the beneficial use of the facilities or services.
- b) Eskom Holdings SOC Limited may allow the Contracting Party, for the execution of the work, the reasonable use of its workshop, cranes, tools and equipment, provided that the Eskom Holdings SOC Limited's own work and business are not interfered with in any manner by such use. The Contracting Party shall leave all workshops, cranes, tools and equipment in as good a condition as he found them, fair wear and tear excepted, and shall be liable for any damages as a result of any act of negligence by the Contracting Party, his employees or sub-contractor while using such workshop, cranes, tools and equipment.
- c) The Contracting Party is responsible for the repair, replacement or correction as necessary of all pieces of tools and equipment supplied by Eskom Holdings Limited which are damaged and/or lost whilst in the Contracting Party's custody and control.
- d) The Contracting Party ensures that any one of his employees or subcontractor, operating hoist equipment belonging to Eskom Holdings SOC Limited, is authorised by the Contracting Party.

6. Plant Identification Labels:

The Contracting Party replaces or repairs all plant identification labels that are removed or damaged during the execution of the work.

7. Quality Requirements:

- a) Quality requirements for Engineering and Construction Works QM 58 is adhered to. This document is available on request, from the contract person representing Eskom Holdings SOC Limited.

8. Waste Disposal:

All waste introduced to and/or produced on Eskom Holdings SOC Limited's premises by the Contracting Party for this contract, is handled in accordance with the minimum requirements for the Handling and Disposal of Hazardous Waste in terms of Government Legislation as proclaimed by the Department of Water Affairs and Forestry Act, 1994 Ref: ISBN0621-16296-5.

9. Hazardous substances

If any products used by the Contracting Party are classified as a hazardous substance, Material safety data sheet, must accompany delivery in accordance with the Occupational Health and Safety Act (OHSA), Act 85 of 1993 section 10 and Hazardous chemical substance regulations.

If any hazard is identified by the Contracting Party, he immediately informs the contract person representing Eskom Holdings SOC Limited.

The Contracting Party must make sure that hazardous waste is not dumped in improper areas at the Station, it should be handled according to the above Act. The site where the work was done must be clean when the Contracting Party leaves Eskom's premises.

10. Environmental Requirements:

The Contracting Party ensures that the following environmental requirements are complied with at all times:

- Environmental Management System (ISO 14001, 2015)
- Kendal Waste and Recycling Management Work Instruction (*1024102). All waste must be disposed in a legal manner and environmental department must be provided with a waste manifest and safe disposal certificate.
- Non-Conformance, corrective and preventive Action *1017357.

- Environmental Legal and other requirements *1015685.
- Environmental communication *1015692.
- Environmental Management procedure for contractors *1018332.
- The contractor must have an oil spill kit on site and a trained person in oil spillage management.
- The contractor must provide the department with Environmental file which must be checked and approved by environmental department before the contractor can start to work.
- The contractor must report any Environmental incident immediately to environmental department.
- No water shall be drained into the clean water dam/ storm water drains.

11. Contracting Party terms and conditions of employment

The terms and conditions of employment of the Contracting Party is made available to the contract person representing Eskom Holdings SOC Limited before any work commences.

12. Rigging, working at elevated places and with mobile equipment (if applicable)

The Contracting Party ensures that:

- a) all the necessary resources (people, materials and tools, etc) are available.
- b) all his employees who are appointed in terms of the OHS Act are trained and made aware of their legal liabilities (16(2)'s, etc).
- c) all supervisors and drivers are trained in the HIRA technique of risk assessment.
- d) where applicable, special tools/auxiliary equipment such as tractors, trailers, cranes and any mobile equipment are inspected and declared fit and roadworthy for the task at hand.
- e) adequate Risk Assessments are conducted in advance to identify all the anticipated hazards associated with the task/activity. Special attention is given to rigging, working at elevated places and with mobile equipment.
- f) pre-job briefs are conducted before commencement of the planned activities. The detail of the task and the details of the anticipated hazards are explained and mitigation measures are understood by all.
- g) during the task execution regular job observations by the incumbent supervisor takes place, especially where high risks had been anticipated.
- h) for each task/activity the relevant Procedure/Works Instruction is current and approved.

13. Accommodation:

Eskom Holdings SOC Limited does not supply accommodation. The Contracting Party provides accommodation for his employees and the cost for this is deemed to be included in the contract prices.

14. Messing Facilities:

Eskom Holdings SOC Limited does not provide meals. The Contracting Party provides meals for his employees and the cost for this is deemed to be included in the contract prices. However, the Contracting Party can make use of the Tuck-shop on site.

15. Medical Facilities:

Eskom Kendal Power Station Medical Centre and Ambulance assistant facilities are available for incidents occurring within Kendal Power Station Boundaries.

Eskom Kendal Power Station Medical Centre is entitled however to recover the reasonable costs incurred in respect thereof from the Contracting Party.

After-hours all incident must be reported to Kendal Power Station Electrical Operating desk 013 647 6795, Internal Pax 7911.

16. Scrap Removal

Scrap bins are provided at set points. These are for scrap metal only and not for cement or any other form of debris. The Contracting Party takes cognizance of the fact that scrap metal and rubber are stored in two different locations.

17. Irregularities

In accordance with Eskom's Directive "ESKADABK9 - Protecting Disclosure of Crime and Irregularities in the Workplace", the Contracting Party is encouraged to report any crime and irregularities in accordance with the provisions of the Protected Disclosures Act 26 of 2000 as follows:

1. You may direct any concerns or process related queries, in writing, to the Kendal Power Station Manager.
2. Kindly include the following information with your concerns:

- 2.1: Enquiry or Purchase orders number (if available).
- 2.2: Date of enquiry or purchase order.
- 2.3: Name of person or buyer.
- 3. Contact details of the Kendal Power Station Manager is as follows:
Kendal Power Station
The General Manager Acting
Mr Solly Ngcashi
Private Bag X7272
Witbank
1035 Mpumalanga
Fax: 013 647 9115
- 4. Alternatively, to disclose any concerns or process related queries you may contact:
Eskom's Corporate Investigations and Security
Phone toll free: 0800 11 27 22
Speak to a person: (011) 800 4444
Via the Internet: ciands@eskom.co.za

All information will be handled and dealt with extreme confidentiality.

18. Abuse of alcohol and/or intoxicating substances

Eskom Kendal Power Station will test the Contracting Party's employees for being under the influence of alcohol and/or intoxicating substances on an ad hoc basis. The Contracting Party informs his employees that such behaviour is in contravention of the Occupational Health and Safety Act and Eskom Life Saving Rules Procedure (Rule 4 :Be Sober). The Contracting Party shall enforce compliance to these rules and implement disciplinary measures where the rules are contravened. Should such behaviour persist, Eskom Holdings SOC Limited reserves the right to review this contract. The Contracting Party's co-operation in this regard is paramount.

19. Assessment and Invoicing

To enable payment, the Contracting Party ensures conformance to the following:

- An official 4500..... Order Number is available BEFORE commencing work.
- An assessment is jointly completed by the contract person representing Eskom Holdings Limited and the Contracting Party and that they are in agreement on at least the following:
 - * Completed scope
 - * Completed quantity
 - * Value of work completed
- Preparation of an invoice in accordance with the assessment and deliver it directly to the Accounts Payable Department at the Commercial Building, Kendal Power Station.
- A copy of the invoice is forwarded to the contract person representing Eskom Holdings SOC Limited.

Invoices - Value-Added Tax Act No 89 of 1991 (the VAT Act)

A valid invoice is an invoice that corresponds per line to the applicable valid order, complies with all tax law requirements and is addressed to Eskom Holdings SOC Limited for attention, Kendal Power Station.

Particulars to be included on the Contracting Party's Tax Invoice:

Contract number and/or Order number

The word "TAX INVOICE" in a prominent place (preferably at the top of the page)

An individual serial number (tax invoice number)

Name, address and VAT registration number of the Contracting Party *

Name, address and VAT registration number of Eskom Holdings SOC Limited *

(Eskom Holdings SOC Ltd, Kendal Power Station - VAT No 4740101508)

Date of issue of Tax Invoice

A full and proper description of goods delivered and/or service/s rendered

Quantity or volume of goods or services supplied *

Where the supply is subject to VAT at the standard rate, the following in Rand:

- The value, VAT amount and consideration OR
- The total consideration with a statement that VAT is included @ 15% OR
- The total consideration and the amount of VAT charged

Address where service was rendered

Value and VAT amount

Task Order number

Discounts

- * These two requirements do not apply where the consideration (VAT inclusive amount) is less than R3 000,00.

Scanned tax invoices sent by e-mail are not acceptable to Eskom Holdings SOC Limited- only original tax invoices are considered for payment.

Address where invoices are to be forwarded

invoiceseskomlocal@eskom.co.za

20. Cost Price Adjustment (CPA) implementation

If CPA is applicable, the contract person representing Eskom Holdings SOC Limited and the Contracting Party confirms the increase/decrease with the buyer BEFORE the revised prices are stated on the Invoice.

21. Invoice price versus order price

It is important that the value stated on the Invoice corresponds with the Order. If the Invoice value is different to the Order value payment is likely to be delayed. The Contracting Party confirms that there are no discrepancies on the Invoice to ensure timely payment in accordance with the contractual terms of payment. Any discrepancies are resolved by the Contracting Party with the Buyer BEFORE it is submitted for payment.

22. Labour

All labour laws must be adhered to.